SUBMITTED VIA EFORMS

March 11, 2024

Michael Kennedy
Director
Division for Air Quality
300 Sower Blvd. 2nd Floor
Frankfort, KY 40601

RE: Real Alloy Recycling, LLC
AI# 11316; Air Quality Permit No. V-19-026 R1
Pre-Construction Activities Concurrence Request

Dear Mr. Kennedy:

Real Alloy Recycling (Real Alloy) owns and operates a secondary aluminum production plant in Morgantown, Kentucky (Morgantown facility). The facility is classified as a major source under the Title V operating permit program and currently operates in accordance with permit V-19-026 R1, initially issued by the Kentucky Division for Air Quality (KDAQ) on October 14, 2021 and most recently revised on March 16, 2023. On February 21, 2024, Real Alloy submitted a Title V significant revision application to facilitate issuance of a revision to its existing Title V permit authorizing installation of a new primary and secondary shredder system and a new holding furnace. In addition to installation of new equipment, the proposed project also involves modified and otherwise impacted rotary furnaces, shredder sorting equipment, and a reverberatory furnace.

As discussed with the Division's Permit Review Branch staff during a pre-application conference call held on December 8, 2023, Real Alloy has prepared this request for concurrence from KDAQ that Real Alloy may undertake the following pre-construction activities before issuance of the Title V permit revision. The following list of pre-construction activities is subdivided by activity type related to the implementation of the proposed shredder and casting expansion project (herein referred to as the "proposed project").

1. **Tree Removal**
   - Tree removal and/or trimming associated with the proposed project.
2. **Fencing**
   - Installation of temporary construction fencing associated with the proposed project.
3. **Temporary Construction Trailer**
   - Placement of a temporary construction trailer associated with the proposed project.
4. **General Earthwork and Excavation**
   - Grading work in preparation for the extension of the existing shredder building in support of concrete footers and structural supports for the new primary shredder and baghouse (no footings or foundations to be constructed).
   - Grading work in preparation for the extension of the existing rotary production building in support of sow casting, staging and marking.
   - Concrete flatwork to repair existing concrete for construction and operating mobile equipment traffic.

5. **Material Layup Yard**
   - Designate area(s) for the temporary storage of material and equipment in support of the proposed project.
6. **Power Distribution**
   - Replace an existing spare transformer with a new 2500kVA transformer to provide sufficient power to existing and new equipment.
   - The addition of a mezzanine (second floor) in the existing motor control center (MCC) to accommodate the additional electrical infrastructure that could support existing and new equipment.
   - The installation of a new power distribution gear to supply and protect power to new and existing equipment.
   - Installation of overhead and underground conduit from MCC mezzanine to the general area of the new primary shredder and baghouse.
   - For both overhead and underground conduit, run wire within new conduit to the general area of the new primary shredder and baghouse.
7. **Utilities**
   - Extension of the existing main water supply line to the new primary shredder and baghouse.
   - Extension of the existing compressed air line to the new primary shredder and baghouse.

Please advise as soon as practicable whether KDAQ concurs with Real Alloy's determination that the above pre-construction activities may occur before the facility's revised air quality permit advances to the Proposed Permit stage where full construction would otherwise be authorized. We appreciate the Division's consideration of this request. If you have any questions or concerns, we will be seeking to discuss them during our tentatively planned post-application submittal meeting with the Permit Review Branch to review the main highlights of the February 2024 Title V significant revision application.

Sincerely,

Matthew Kamboures
Plant Manager

cc: Jennifer Zavoda – Real Alloy
Elisabeth Martin – Trinity Consultant

TITLE V SIGNIFICANT PERMIT REVISION

For Shredder and Casting Expansion Project

Real Alloy Recycling
805 Gardner Lane
Morgantown, KY 42261

Agency Interest # 11316

Prepared By:

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February 21, 2024

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1. APPLICATION SUMMARY

1.1 Purpose of Application

Real Alloy Recycling (Real Alloy) owns and operates a secondary aluminum production plant in Morgantown, Kentucky (Morgantown facility). The facility is classified as a major source under the Title V operating permit program and currently operates in accordance with permit V-19-026 R1, initially issued by the Kentucky Division for Air Quality (KDAQ) on October 14, 2021 and most recently revised on March 16, 2023. Pursuant to 401 KAR 52:020, Section 16, Real Alloy is submitting this permit application to facilitate issuance of a significant revision to its existing Title V permit authorizing installation of a new primary and secondary shredder system and a new holding furnace. In addition to installation of new equipment, the proposed project also involves modified and otherwise impacted rotary furnaces, shredder sorting equipment, and a reverberatory furnace. Accordingly, the required elements for a significant revision application are contained in this report and its appendices.

The primary driver for the proposed project is to provide more flexibility for shredded material through expanded shredding capabilities from new shredding equipment. In turn, this will increase the annual production of the Morgantown facility allowing it to meet an increase in customer demand. Increased aluminum production from the rotary furnace melting and casting area requires certain physical changes to two of the three existing rotary furnaces [Rotary Furnace 5 (EU04) and Rotary Furnace 8 (EU13)] and installation of a new holding furnace planned to be installed downstream of Rotary Furnace 5.

Real Alloy plans to begin construction immediately upon issuance of the Proposed Permit. Real Alloy is seeking issuance of a Draft Permit for public comment no later than May 15, 2024 and a Proposed Permit authorizing construction on or before July 15, 2024. Accordingly, Real Alloy will be seeking opportunities to proactively engage with KDAQ staff to provide whatever assistance would be beneficial to facilitate the processing of this application and development of the amended permit.

1.2 Summary of Application Contents

Following this introduction, a description of the facility operations and each emission unit or group of similar emission units affected by the project is provided in **Sections 2** and **3** respectively. Supporting these descriptions is a revised emission unit index table in **Appendix A** and site maps and process flow diagrams in **Appendix B**. A complete PSD applicability assessment addressing all PSD applicability concerns is presented in **Section 4**, and a complete applicability analysis with respect to state and federal air regulations is presented in **Section 5**. The requested changes to the Title V permit are outlined in **Section 6**. The detailed emission calculations are provided in **Appendix C**, and a complete set of DEP7007 series application forms covering the proposed project is provided in **Appendix D**. A redline/strike-out version of the current Title V permit showing the specific edits being sought through this renewal is provided in **Appendix E**.

2. FACILITY INFORMATION AND CLASSIFICATION

2.1 Facility Location

The Morgantown facility is a secondary aluminum production facility employing approximately 170 people. It is located approximately one mile west of Morgantown, Kentucky on Gardner Lane in Butler County on a 551 acre tract of land. The facility is bordered by rural undeveloped tracts of land in all directions. **Appendix B** shows the plant layout and provides an aerial map highlighting the location of major process areas and emission units. The Universal Transverse Mercator (UTM) coordinates of the facility are (approximately) 524.9 kilometers (km) East and 4,117.9 km North (Zone 16S), and the Lat-Long coordinates are 37.2075/-86.7192.

2.2 Facility Industrial Classification

At the Morgantown facility, Real Alloy produces aluminum sows and molten aluminum transported in crucibles from various types of aluminum scrap, including coated and uncoated coil, dross from aluminum production, used beverage cans, and scrap siding. The salt cake processing facility also recovers aluminum concentrate from the salt cake generated at the Morgantown facility and salt cake byproduct supplied from other facilities, which is returned to the furnaces. The scrap may be shredded or delacquered prior to charging in the rotary or reverberatory furnaces. Holding furnaces contain cleaned, molten aluminum prior to casting or crucible operations.

Real Alloy's primary SIC Code is 3341 for "Secondary Smelting and Refining of Nonferrous Metal". The corresponding primary NAICS Code for the Morgantown Plant is 331314, "Secondary Smelting and Alloying of Aluminum".

2.3 Emissions Profile and Source Classification

The Morgantown facility is a source of combustion by-product pollutants due to natural gas combustion in aluminum melting and holding furnaces. The shredder, furnaces and associated material handling operations are also a source of particulate matter (PM) and hazardous air pollutant (HAP) emissions.

The Morgantown facility is an existing major source under the Title V operating permit program (401 KAR 52:020) since potential emissions of at least one regulated pollutant exceeds 100 tpy. The Morgantown facility is also a major source of HAP since potential emissions combined are in excess of 25 tpy. In addition, potential emissions of a single HAP (HCl) exceed 10 tpy.

3. PROPOSED PROJECT DESCRIPTION

Process flow diagrams for the facility process areas are provided in **Appendix B**. Supporting these diagrams, the following sections are provided in accordance with 401 KAR 52:020 Section 5(2)(d) to highlight the major process units and associated manufacturing operations involved with the proposed project at the Morgantown facility.

3.1 Existing Facility Overview

UBCs are the primary feedstock for the Reverberatory Furnace (EU03). The UBCs are received in bales, stored in the concrete storage yard, and transported to the Shredder System (EU16) by forklift. The Shredder System is used to tear apart or shred UBC, aluminum siding, and other aluminum scrap. UBC scrap and aluminum siding are generally received in large bales that must be shredded prior to delacquering. The large bales are placed on a conveyor belt and transported to the existing shredding mill inlet. The bales are then pulverized by the mill and forced through a grate, which further reduces their size, before being discharged onto the mill's shaker table/outlet conveyor. The "shreds" are then processed through a magnetic and air separator to remove most of the non-aluminum particles.

The shredded material may then be transported to the Delacquering Furnace (EU02) where paint is removed before charging the Reverberatory Furnace or the shreds are put into storage bunkers to be fed directly into the furnaces. Coated scrap aluminum siding may be processed in the same manner. The Delacquering Furnace uses a rotary drum to remove lacquers, oils, water, dust, and fines from the scrap. Shredded and coated aluminum scrap comes into contact with a flow of hot process gas generated by an integral afterburner that serves to volatilize residual organic coatings present on the scrap.

The Reverberatory Furnace is used to continuously melt aluminum while chlorine-containing flux is used to remove impurities from the melted scrap. Molten aluminum from the Reverberatory Furnace is either poured into molds and allowed to cool to form sows or is tapped into crucibles for molten delivery to customers.

Real Alloy also utilizes Rotary Furnaces 5, 8, and 9 (EU04, EU13, and EU14) to melt aluminum scrap in a batch process. The furnaces are charged with scrap and salt flux and cryolite are added to improve coalescence of molten metal. The rotary furnaces process a variety of aluminum scrap, concentrate from the salt cake processing facility, and dross as the primary feed/charge materials. The rotary furnaces produce molten aluminum that can be poured into a variety of downstream forms including a holding furnace for staging or poured directly into sow molds or crucibles. The rotary furnaces produce a salt cake byproduct which is either processed in the salt cake processing facility or routed to the on-site landfill.

The existing Holding Furnace (EU17) is fed via trough from Rotary Furnace 9 (EU14) or via sows directly charged. The Holding Furnace holds cleaned, molten aluminum prior to casting or crucible operations.

Salt cake and dross, by-products from processing aluminum scrap, are periodically removed from the Rotary and Reverberatory Furnaces and transported to the Salt Cake Cooling area, termed the Mud Room (EU07), where it cools. The salt cake is then hauled to the Salt Cake Processing Facility (SCPF, EU06) to recover additional aluminum. The SCPF processes salt cake generated at Real Alloy and other similar facilities around the country. The recovered aluminum (concentrate) is returned to the furnaces for reprocessing.

3.2 Proposed Project Description

3.2.1 New Emission Units

3.2.1.1 Primary and Secondary Shredder

The new Primary and Secondary Shredder will provide the option to divert a portion of the scrap stream from the existing hammermill shredder. The primary shredder may be used to feed the downstream secondary knife shredder which subsequently feeds the back end scrap processing section of the current Shredder System (EU16). The new Primary and Secondary Shredders will also be capable of feeding shreds directly into staging bays that supply the rotary furnaces when additional scrap processing steps performed in the back end of the existing Shredder System are not necessary to achieve the desired product shredded scrap specifications for melting. Both the primary and secondary shredder will be vented to a new shared baghouse. The maximum capacity of the Primary Shredder is 38 ton/hr, and the maximum capacity of the Secondary Shredder is 19 ton/hr.

As shown in Sections 2 and 3 of **Appendix C**, hourly and annual potential emission rates of all regulated pollutants expected to be generated by the Primary and Secondary Shredder are estimated based on a combination of baghouse engineering design specifications and reference publications. The controlled filterable PM emission factor for the Primary and Secondary Shredders is estimated based on the exit grain loading specification for the new baghouse (0.004 gr/dscf), the nominal flow capacity of the new baghouse (~50,000 acfm converted to dry standard conditions using a representative stack temperature and moisture content), and the maximum hourly aluminum process rate. The filterable PM_{10} and $PM_{2.5}$ are derived from EPA's PM Calculator. A nominal baghouse control efficiency of 97% for filterable PM/PM_{10}/$PM_{2.5}$ is assigned based on the control efficiency of the current Shredding System baghouse, designated as equivalent, for the purposes of calculating uncontrolled filterable PM, PM_{10}, and $PM_{2.5}$ emission factors that are required to be used on the DEP7007 N form in **Appendix D.** A conservative engineering estimate of 98% capture efficiency was used based on guidance from ventilation system vendors and precedent from similar facility permitting.

3.2.1.2 Holding Furnace

A new Holding Furnace will be installed after Rotary Furnace 5 to expand sow casting and crucible production. The new Holding Furnace has a 60,000 pound molten metal holding capacity which could enable molten metal transfers at a higher hourly process rate than the upstream melting furnace, but its maximum hourly throughput rate will be inherently constrained to the same rate as the upstream rotary furnace supplying metal to the new holding furnace. The new Holding Furnace will be installed with two low NO_X burners rated at 4.9 MMBtu/hr each, for a total of 9.8 MMBtu/hr.

As shown in Section 4 of **Appendix C**, PM and VOC emission factors for the Holding Furnace are generally based on the current emission factors for a similar unit at the Real Alloy Coldwater, Michigan facility. Total PM_{10} and $PM_{2.5}$ are derived from similar source test data contained in a reference publication released by the Aluminum Association ["Test Report - Particulate Matter Study at Three Representative Sources at Aluminum Recycling and Rolling Facilities", Prepared for the Aluminum Association by TRC Environmental, Project No. 157428, January 19, 2009 (herein referred to as the TRC Report]. The NO_X emission factor tied to natural gas combustion is based on the burner manufacturer's technical data sheet for worst-case NO_X emissions performance of the Holding Furnace combustion system. Finally, emission factors for all of the remaining regulated pollutants from the proposed Holding Furnace are based on reference literature (e.g., EPA's AP-42 and 40 CFR 98).

3.2.2 Modified Emission Units

3.2.2.1 Rotary Furnace 5

As part of the proposed project, Real Alloy plans to replace the burner and to add a door on Rotary Furnace 5. The new burners will have a rating of 16 MMBtu per hour, increasing the burner rating by 2 MMBtu per hour from the current burner system. Despite the burner replacement, there will be no increase to the maximum hourly or annual production capabilities of the rotary furnace. In fact, Real Alloy has determined the 4.2 ton/hr molten aluminum capacity referenced for Rotary Furnace 5 in the current Title V permit does not need to increase to accommodate the proposed change to the furnace's burner system and addition of a door. The addition of the rotary furnace door and installation of the downstream holding furnace may allow for an increase in actual throughput of the furnace while lowering the amount of natural gas required per unit of aluminum produced.

As shown in Section 6 of **Appendix C**, the filterable PM emission factor for Rotary Furnace 5 is based on the most recent 2021 SMACT test. The filterable PM_{10}, filterable $PM_{2.5}$, and condensable PM ratios are based on the maximum ratios from the November 2023 compliance testing of Rotary Furnace 8 and 9, designated as similar units. The VOC emission factor is based on the November 2023 compliance testing of Rotary 8. The only emission factors directly implicated by the burner replacement are for CO and NO_X emissions. The current CO emission factor is also based on the November 2023 compliance test of Rotary 8. The current NO_X emission factor is set equal to the basis for the Rotary Furnace 8 permit limits for NO_X based on similar facility stack testing done in 2006. Since both NO_X and CO emission factors are representative of contributions from both metal throughput and natural gas combustion, to account for the difference in emissions due to the burner replacement, the vendor estimate for NO_X and CO concentration was used to find the natural gas usage based emission factor and multiplied by the increase in burner natural gas usage that would be attributable to the burner heat input rate increase from 14 MMBtu/hr to 16 MMBtu/hr. These attributable NO_X and CO emission rate increases from the burner replacement were then divided by the process rate and added to the current metal production-based emission factors. HCl and D/F emission factors are based on the most recent 2021 SMACT test. Finally, emission factors for all of the remaining regulated pollutants from the rotary furnace are based on reference literature (e.g., EPA's AP-42 and 40 CFR 98).

3.2.2.2 Rotary Furnace 8

As part of the proposed project, Real Alloy plans to change the tilt angle for Rotary Furnace 8 when it is in the door open and charging position. This increased tilt angle for Rotary Furnace 8 will be accomplished by modifying the existing furnace foundation to accommodate the furnace frame and barrel in a lowered position. By increasing the angle of the Rotary Furnace 8 tilt, Real Alloy will effectively be able to increase the metal holding capacity of the furnace with no other physical changes to the furnace barrel, furnace door, or natural gas-fired combustion system. Because the furnace cycle time is proportional to the amount of feed/charge materials added and molten aluminum produced, the increase in metal holding capacity does not directly translate into a proportional increase in the hourly aluminum process rate over the batch operating cycle. In fact, Real Alloy has determined the 8.22 ton/hr molten aluminum capacity referenced for Rotary Furnace 8 in the current Title V permit does not need to increase to accommodate the proposed change to the furnace's tilt angle. Despite the maximum hourly potential aluminum process rate for Rotary Furnace 8 not needing to change as a result of the proposed project, the increased metal holding capacity achievable with the larger tilt angle and operating flexibility of transferring molten metal to the Reverberatory Furnace will collectively increase the amount of scrap that can be fed directly to Rotary Furnace 8, increasing the actual annual throughput.

As shown in Section 7 of **Appendix C**, the filterable PM, total $PM_{2.5,}$ total PM_{10}, CO, and VOC emission factors are based on the most recent compliance testing for Rotary Furnace 8 completed in November 2023. The NO_X emission factor is based on the stack tests used as the original basis for the potential to emit (PTE) as documented in the 2012 permit renewal application. The HCl and D/F emission factors are based on the most recent SMACT test for Rotary Furnace 8 completed in August 2021. A nominal baghouse control efficiency of 98% for filterable $PM/PM_{10}/PM_{2.5}$ and HCl is assigned based on the historical values for filterable PM control efficiency assigned to Rotary Furnace 8 with a nominal capture efficiency of 99% to calculate uncaptured emissions. Finally, emission factors for all of the remaining regulated pollutants from the rotary furnace are based on reference literature (e.g., EPA's AP-42 and 40 CFR 98).

3.2.3 Associated Emission Units

3.2.3.1 Existing Shredder System – Scrap Processing Operations

The second step of the current Shredder System (EU16), consisting of the magnet separator, air knife, and eddy current separators will increase in annual throughput due to the increased shredded scrap production capability associated with the new Secondary Shredder. The maximum hourly process throughput is permitted for the entire Shredder System, and this process rate will not be impacted by the project due to no physical changes being made to the existing hammermill shredder as part of the proposed project and no planned physical changes to the scrap processing equipment associated with the existing Shredder System.

As shown in Section 5 of **Appendix C**, the current filterable PM emission factor is based on the most recent 2021 SMACT testing of the Shredder System. To derive the projected actual emission factor reflective of the scrap processing operations configuration after the proposed project is implemented, the gr/dscfm outlet filterable PM concentration is multiplied by the baghouse flow rate contribution from only the scrap processing operations to find the PM emission factor independent of the hammermill shredder. Real Alloy intends to reduce the fan flow rate supplied to the existing Shredder System baghouse when the scrap processing operations are receiving shredded scrap from the new Secondary Shredder. In addition, the existing hammermill shredder will not be operated at the same time as the new Secondary Shredder when its feeding product shredded scrap to the scrap processing operations at the back end of the existing Shredder System. Real Alloy plans to only operate the existing hammermill shredder as a backup unit when the new Primary and Secondary Shredders are down for maintenance or otherwise not supplying shredded scrap to the scrap processing operations, and these operating restrictions are reflected in the emission calculation basis for the impacted, existing scrap processing operations. The filterable PM_{10} and $PM_{2.5}$ emission factors are calculated from the scrap processing operation specific filterable PM emission factor using the ratios in EPA's PM Calculator. The process-based emission factor for the projected actual emissions case is based on the maximum hourly throughput of the new Secondary Shredder equipment (19.0 ton/hr) conservatively assuming the existing scrap processing operation can accommodate a higher hourly process rate than the assigned capacity for the overall, existing Shredder System (12.04 ton/hr).

3.2.3.2 Reverberatory Furnace

As part of the proposed project, Real Alloy plans to introduce the capability of transferring molten aluminum from Rotary Furnace 8 to the Reverberatory Furnace to offer more operating flexibility in the molten casting and crucible filling associated with the Rotary Furnace molten aluminum production. Although in reality any molten metal transferred to the Reverberatory Furnace would likely displace charging of shredded and decoated scrap from the Delacquering Furnace (EU02) and/or feeding of loose scrap to the Reverberatory Furnace's open sidewell, Real Alloy has conservatively assumed any molten metal transfers would be on top

of the charging of all other scrap streams within the actual-to-projected actual emission calculations for this associated emission unit. The proposed molten metal transfer capability from Rotary Furnace 8 to the Reverberatory Furnace will not impact the maximum hourly process rate listed in the current permit for the Reverberatory Furnace.

As shown in Section 8 of **Appendix C**, the filterable PM emission factor is based on the most recent SMACT testing completed in April 2019. Total PM_{10} and $PM_{2.5}$ are derived from the filterable PM emission factor using the ratios of the TRC Report for "Box-Type Furnace Stack". The NO_X and VOC emission factors are based on Real Alloy Coldwater, Michigan stack testing for a representative unit. HCl and D/F emission factors are based on the most recent unit SMACT testing conducted in April 2021. Emission factors for all of the remaining regulated pollutants attributed to combustion only are based on reference literature (e.g., EPA's AP-42 and 40 CFR 98).

3.2.4 Unaffected Emission Units

Several process units at the Morgantown facility are not expected to be affected by the proposed changes included in the project scope. Other process operations may experience a decrease in utilization caused by the project, but the emissions impacts of this decreased utilization have not been factored into the PSD applicability assessment. This group of emissions sources collectively referred to as "unaffected" units includes the following sources:

- Existing Rotary Furnace 9 and Holding Furnace (#H11)
  - The aluminum production rates of Rotary Furnace 9 and Holding Furnace (#H11) are not expected to be impacted by the proposed project, and no modifications will be made to Rotary Furnace 9 as part of proposed project.
- Existing Delacquering Furnace
  - The Delacquering Furnace is currently bottlenecked by the hammermill Shredder and scrap processing operations. While the new Secondary Shredder will feed the scrap processing operations, the new scrap stream will be directed to the storage bays, not the Delacquering Furnace, so there will not be any increase in processed material at the Delacquering Furnace due to the proposed project.
- Mud Room and Salt Cake Processing Facility
  - The increased throughput of the rotary furnaces may lead to a higher production of salt cake. Regardless, the Mud Room and Salt Cake Processing Facility are controlled by baghouses which should achieve a constant filterable $PM/PM_{10}/PM_{2.5}$ emissions performance irrespective of the amount of salt cake being processed within the associated storage and handling operations. Baghouses are considered constant exit grain loading devices where a fixed outlet emission rate can be achieved over a wide range of varying inlet filterable PM emissions loading. Therefore, any attributable change in salt cake generation rates for proposed project would not translate into an emissions increase from the baghouse-controlled Mud Room and Salt-Cake Processing Facility.
- Existing Shredder System
  - There will be no increase in scrap processing for the hammermill shredder. The impact of the scrap processing operations is addressed on **Section 3.2.3.1**.

4. PSD APPLICABILITY ASSESSMENT

Based on the project emission increase calculation methodologies detailed in **Appendix C**, the PSD applicability analysis for the proposed project is presented below. This analysis demonstrates that the proposed project will not trigger PSD permitting requirements for any regulated NSR pollutants.

4.1 PSD Source Classification

Real Alloy's Morgantown plant is located in Butler County, which has been designated by the EPA as an unclassified/attainment area for all criteria pollutants.[1] Therefore, with respect to the federal NSR permitting program, only PSD requirements could potentially apply to the source.

Kentucky has incorporated the requirements of the PSD permitting program into its State Implementation Plan (SIP) at 401 KAR 51:017.[2] These PSD regulations specifically define 28 industrial source categories for which the "major" source threshold is 100 tpy of any regulated pollutant.[3] The major source threshold for facilities not on this "List of 28" is 250 tpy. As a secondary metal production plant classified under SIC 3341, the existing operations are included on the "List of 28" source category. As such, the PSD threshold is reduced from 250 tons per year to 100 tons per year.

The existing operations at the Morgantown Plant are covered under a Title V Permit V-19-026 R1 issued by KDAQ on October 14, 2021 and most recently revised on March 16, 2023. The PTE for the Morgantown Plant is above 100 tons per year for CO resulting in the PSD major source status. As such, the Morgantown facility is classified as an existing major source under the PSD program. Physical changes or changes in the method of operation at the Morgantown plant that result in a significant net emissions increase above the reduced PSD-triggering levels called the SERs are subject to PSD permitting requirements [e.g., 40 tpy for nitrogen oxides (NO_X), 100 tpy for carbon monoxide (CO), 40 tpy for volatile organic compounds (VOC), 25 tpy for particulate matter (PM), 15 tpy for PM_{10}, 10 tpy for $PM_{2.5}$, etc.].

4.2 PSD Applicability Methodology

At an existing major PSD source, PSD is triggered for a regulated NSR pollutant if the project under consideration constitutes a "major modification," as defined at 401 KAR 51:001, Section 1(114). To constitute a major modification, the proposed project must first be a "*physical change in or change in the method of operation of a stationary source*," not otherwise exempted. The proposed project, which involves installation of several new pieces of process equipment and physical changes to existing emission units, clearly meets this prong of the definition. Second, both the emission increase from the project alone (known as the "Step 1" project emissions increase), and the net emissions increase over a five-year contemporaneous period (known as the "Step 2" net project emissions increase) must be "significant," meaning the increase exceeds the PSD SER defined under 401 KAR 51:001, Section 1(218)(a) for a regulated NSR pollutant.

Reflecting the PSD applicability criteria, the emissions increases only from the proposed project are quantified as the first step in the applicability analysis. PSD applicability is also determined for units that are

[1] 401 KAR 51:010, Section 2

[2] 40 CFR 51.166(a)(1)

[3] 401 KAR 51:001, Section 1(118)(a)(2)

either physically modified, or affected, as part of the project. A discussion of which units will undergo physical modification, or will be affected (associated change) as part of this project was presented in **Section 3.2**. Pursuant to 401 KAR 51:017 Section 1(4)(a)3, hybrid projects that involve existing and new emission units may use an actual-to-projected actual applicability test for the existing units and an actual-to-potential test for the new units. The sum of emission increases from these tests for all affected units associated with the proposed project is the total project emissions increase assessed against the SER. If the emissions increases from the project are less than the SER, the pollutant does not trigger PSD. For those pollutants with emission increases exceeding the SER, the net creditable emission increases and decreases over the contemporaneous period [as defined in 401 KAR 51:017 Section 1(144)(b)] are estimated and the net emissions increase is calculated for comparison with the SER.

For projects involving increases in GHG emissions, the mechanism for triggering PSD review is different from other non-GHG regulated NSR pollutants. For a project to trigger PSD review for GHGs, GHGs must first become "subject to regulation" to be treated as a regulated NSR pollutant that can fall under the PSD requirements.[4] A physical change or change in the method of operation at a facility that results in an emissions increase of a non-GHG pollutant exceeding the SER and an emissions increase of GHG exceeding 75,000 tpy CO_2e (for the project alone and on a net basis considering contemporaneous emissions increases and decreases) would make the GHG emissions increase from the project subject to regulation and would require PSD review for the GHG emissions from the new units associated with the proposed project.[5]

To determine the emission increases associated with the proposed project, baseline actual emissions (BAE) are first defined for all affected emission units whose emissions will change as a result of the project. For new emission units covered in the project scope, the baseline emission levels are set to zero. For an emission unit that "has existed for less than two (2) years from the date the unit first operated"[6], the baseline emissions levels are set equal to "the unit's potential to emit."[7] These BAE are then subtracted from the future emissions that will occur upon completion of the project to quantify the project emissions increase. For new emission units, future emissions are based on the future annual potential emission rate of the unit considering inherent physical and operational constraints on the production capacity of the equipment and federally enforceable emissions/operating limitations, where applicable.

For modified existing emission units, future emissions are based on the future projected actual emissions (PAE)[8]. In cases where the difference between the PAE and BAE for a modified existing emission unit represents an emissions decrease, the future emissions must be recalculated on a potential basis if this

[4] "Subject to regulation" is defined in 401 KAR 51:001, Section 1(231), which cross-references the federal definition in 40 CFR 51.166(b)(48).

[5] The component of the "subject to regulation" definition relating to the 100,00 tpy CO2e major source threshold was recently revoked by the U.S. Supreme Court in Utility Air Regulatory Group (UARG) v. Environmental Protection Agency (EPA) (No. 12-1146) ruling.

[6] "Emission Unit" definition in 401 KAR 51:001 Section 1(64)(a).

[7] "Baseline actual emissions" definition in 401 KAR 51:001 Section 1(20)(c).

[8] In a letter from Scott Pruitt, EPA Administrator to EPA Regional Administrators (December 7,2017), when a source performs a pre-project NSR applicability analysis in accordance with the procedure in the regulations, and follow the applicable recordkeeping and notification requirements, the source has met the pre-project source obligations. Unless there is clear error (e.g. source applies an incorrect SER), the projected actual emissions are not second-guessed. (https://www.epa.gov/sites/default/files/2017-12/documents/nsr_policy_memo.12.7.17.pdf)

emissions reduction is intended to be included in the contemporaneous netting calculations[9], unless the operative PSD program has been updated to include EPA's project emissions accounting rulemaking (not applicable in Kentucky at this time).[10] For unmodified, associated units, future emissions are calculated by the same actual-to-projected actual procedure as other existing emissions units. PAE are not required to include that portion of the modified unit's emissions following the project that the unit could have accommodated during the baseline period and that are also unrelated to the project. Therefore, an applicant can exclude a portion of the PAE that is determined not to be attributable to the project if the annual emission rate associated with PAE exclusion could have been accommodated during the 24-month period selected for the baseline.[11] The specific application of the BAE, PAE, and PAE exclusion concepts under Kentucky's PSD regulations for the proposed project are discussed further in the following subsections.

4.3 Baseline Actual Emissions

For an existing emission unit, BAE are the average rate, in tons per year, at which the emission unit actually emitted the pollutant during any consecutive 24-month period selected by the applicant within the 10-year period immediately preceding either the anticipated date of construction or the date a complete permit application is received by KDAQ, whichever is earlier.[12] For a new emission unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit is set equal to zero.[13]

4.3.1 Baseline Period

The baseline period can be selected on a pollutant-by-pollutant basis, but for a given pollutant, only one baseline period can be used across all new, modified, and associated emission units in the project scope. The baseline period selection process typically involves a review of historical production and emissions data over the previous 10-years to identify a historically representative period of 24-month rolling average production/annual emissions.

Real Alloy keeps detailed records of monthly production data for all major process units located at the Morgantown plant. These comprehensive production records cover nearly all of the significant emission units listed in Section B of the Title V permit. Data is kept for the relevant operating parameters for each emission unit. As shown in the emission calculations presented in **Appendix C**, the 24-month period from **January 2021 through December 2022** was selected as the baseline period for determining the BAE for all pollutants and emission units associated with the proposed project. Real Alloy has selected this timeframe primarily because it is the most recent period that includes representative operating data from all recent project activity at the Morgantown facility. BAE are generally calculated by multiplying a representative emission factor by the actual annual average operating rate in the appropriate units during the 24-month baseline period. Unit-by-unit baseline actual emissions calculations for the existing affected emission units are presented in **Appendix C.**

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[9] Letter from Ms. Cheryl Newton, EPA Region 5 Director of Air and Radiation Division to Mr. Keith Baugues, Assistant Commissioner Indiana Department of Environmental Management dated April 4, 2011 (http://www.epa.gov/region7/air/nsr/nsrmemos/atpanet.pdf)

[10] 85 FR 74890, *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NNSR): Project Emissions Accounting – Final Rule*, November 24, 2020.

[11] 401 KAR 51:001 Section 1(199)(b)1.c.

[12] 401 KAR 51:001 Section 1(20)

[13] 40 CFR 51:001 Section 20(c)

4.4 Projected Actual Emissions

Projected actual emissions are the maximum annual rate, in tons per year, at which an existing emission unit is projected to emit a regulated NSR pollutant in any one of the 5 years following the date the unit resumes regular operation after the project. If the project involves increasing the emission unit's design capacity or its potential to emit a regulated NSR pollutant and full utilization of the unit will result in a significant emissions increase, the period for the projection must extend 10 years into the future instead of 5 years.[14] Because the proposed project does not involve an increase in hourly production capacity for the existing emission units covered in the project scope, a 5-year period is covered by the PAE calculations.

Pursuant to 401 KAR 51:001 Section 1(199)(b)1.a., the PAE calculation must consider all relevant information including:

1. Historical operational data;
2. The applicant's own representations of expected and highest projected business activity;
3. Filings with the Kentucky Energy and Environment Cabinet and EPA; and
4. Compliance plans under the Kentucky SIP.

On December 7, 2017, USEPA issued a memorandum clarifying that when a source owner develops PAE calculations in accordance with the regulation they have met their pre-project obligation. The 2017 guidance explains: "The EPA does not intend to substitute its judgement for that of the owner or operator by "second guessing" the owner or operator's emissions projections," unless there is clear error (e.g. the source applies the wrong significance threshold).[15]

Of these available information resources, historical operational data and business planning forecasts of projected business activity have been most heavily relied upon to determine the PAE for the various existing emission units affected by the proposed project. Assessing the effects of physical changes at the Morgantown plant is a complex analysis taking into consideration, among other factors, the market conditions and broader business climate after the project is completed. Real Alloy considered historical operational data as well as expected conditions to forecast aluminum production levels for the Morgantown plant both with the proposed project to support the projected actual emissions estimates. The projections with the project are informed by preliminary engineering design information and internal strategic planning analysis.

4.4.1 Could Have Accommodated Emissions

Pursuant to 401 KAR 51.001 Section 1(199)(b)(2)1.c., emissions from an existing unit that could have been accommodated (CHA) by that unit during the 24-month baseline period can be excluded from the calculated emissions increase if the CHA emissions are also unrelated to the project. Assuming baseline and future emissions are proportional to the operating variable which most significantly influences the annual emissions profile of an existing unit (such as raw material throughput, fuel usage, etc.) is a common simplifying assumption applied when determining CHA emissions. Based on this assumption, the first step in establishing the CHA exclusion is to examine the post-change production increase (i.e., projected actual production with project minus baseline actual production) and to determine if any portion of this production increase could have been accommodated during the baseline period (without consideration of causal relationships from the proposed project changes). This analysis is typically performed by comparing the

[14] 401 KAR 51:001 Section 1(199)

[15] (https://www.epa.gov/sites/default/files/2017-12/documents/nsr_policy_memo.12.7.17.pdf)

projected actual process rate after the project to the historically high production timeframes within the baseline period. The time interval for evaluating baseline production rates can be resolved to a monthly level since EPA has acknowledged applicants can "use the highest demonstrated average monthly operating level during the baseline period as an approximation for the level that the units 'could have accommodated' during the baseline period."[16] Using the same historical production data developed for the baseline period analysis, Trinity overlayed the future projected actual throughput rate output onto charts of the annualized monthly, 3-month, 6-month, and 12-month rolling throughput rates in the baseline period.

As long as the projected actual throughput rate falls below the maximum annualized monthly throughput rate, a portion of the difference between the post-project projected actual throughput rate and the 24-month average baseline actual production rate could likely be excludable under the first prong of the CHA exclusion criteria. If the unit demonstrated it could achieve a historically high production level on a monthly basis between the selected baseline period and the current day, it is reasonable to assume that the unit could sustain this production level on an annual basis within the 5-year or 10-year projection window. This increase in production level could be attributable to demand growth and other factors potentially unrelated to the proposed project, but the causal relationship must be evaluated under the second prong of the CHA exclusion criteria.

The second step in establishing the CHA exclusion is to determine that portion of the difference between the projected actual process rate and baseline actual process rate which is not related to (or caused by) the project. If any of the emissions are not related, and the emissions unit(s) could have emitted at this level before the change if operated as projected for the CHA analysis, then those emissions may be excluded from the PAE calculation. A source may only subtract emissions from the maximum annual emission rate determined from the actual-to-projected actual calculation (PAE minus BAE) if those emissions could have been legally and physically accommodated during the baseline period and are unrelated to the change.

To evaluate the CHA adjustment to the projected actual emission calculations, the maximum annual 3-month rolling aluminum feed/charge within the baseline period was used to correlate with historically high production periods. This approach is inherently conservative in that it does not include any future demand growth as would be permissible under the 5-year timeframe of the projected actual emissions definition. Real Alloy believes it is very reasonable to expect the forecast production rate of the existing equipment used in the CHA emissions analysis could be achieved on an annual basis at some point in the next 5-years, even if the proposed project were not implemented.

4.5 Project Emissions Increases

Emission increases from the proposed project for each emission unit and each pollutant are calculated according to the methodologies discussed in each of the following subsections, where the methodology used is dependent on the type of affected unit (e.g., new emission units, modified existing emission units, and unmodified, associated units). The emission increases from all affected emission units for the proposed project are summed to determine the project emissions increase for each pollutant (commonly referred to as the "Step 1" increase). The project emissions increase for each pollutant is then compared to the SER for that pollutant to determine if a significant emissions increase has occurred.

[16] Letter from Mr. Gregg Worley, EPA Region 4 Chief Air Permits Section to Mr. Mark Robinson, Georgia Pacific Wood Products LLC (Columbia, MS) Plant Manager dated March 18, 2010.

As shown in **Table 4-1**, the Step 1 emissions increases attributable to the proposed project will not exceed the SER for any pollutant. With "Step 1" project only emissions increased maintained below the SER for all regulated NSR pollutants, a "Step 2" contemporaneous project netting analysis is not required.

4.5.1 Emission Increases for New Emission Units

For newly constructed emission units, annual emission increases are calculated as the "sum of the potential to emit from each new emissions unit following completion of the project."[17] Beyond the stated production capacity provided by the original equipment manufacturer, other factors considered when evaluating the potential production capabilities of new emission unit include the impact of inherent downtime in the production cycle, interdependence of operating variables that affect long-term capacity, and the effect of upstream/downstream bottlenecks on the new unit. Based on these considerations, hourly and annual potential process rates are defined for the Primary and Secondary Shredders and the new Holding Furnace. The relevant maximum annual process rate (i.e., aluminum throughput, natural gas usage rate, etc.) is then multiplied by a representative potential emission factor to determine the annual potential to emit used in the PSD applicability analysis.

4.5.2 Emission Increases for Modified Emission Units

As discussed in **Section 3.2.2**, Rotary Furnace 5 will be physically modified as a part of the project through the burner replacement and door addition, and Rotary Furnace 8 will be physically modified by increasing its tilt angle and thereby increasing its metal holding capacity. Pursuant to 401 KAR 51:017, Section 1(4)(a)(1), the Step 1 emissions increase for a modified existing emission unit is normally calculated as the difference between the projected actual emissions and the baseline actual emissions. Actual-to-projected actual emission calculations have been developed for Rotary Furnaces 5 and 8. For the actual-to-projected actual test, the initial emission increase is calculated by subtracting the BAE from the PAE with the project. If the project emissions increase determined by this calculation is positive and a portion of this increase is unrelated to the project, the emissions increase is adjusted based on the difference in the CHA emissions (where the CHA exclusion is primarily based on the PAE without the project) and the BAE. Specifically, the adjusted project emissions increase for evaluation against the PSD triggering thresholds is calculated according to the following formula:

$$\textit{Project Emissions Increase}\ (\mathrm{PEI})\ (\mathrm{tpy}) = \textit{(PAE – BAE) – (CHA – BAE)}$$

4.5.3 Emission Increases for Associated Emission Units

Unmodified associated units are handled in the same manner as modified existing emission units for PSD applicability. The Step 1 emissions increase is calculated on the basis of the actual-to-projected actual test. Whenever the actual-to-projected actual test for associated emission units yields an emissions decrease, the decrease is ignored and set to zero for the purposes of establishing the Step 1 project-wide emissions increase. This approach is related to KDAQ's general restriction from accounting for project-related emissions decreases in Step 1 if they are not made enforceable through the Step 2 contemporaneous netting process.

4.5.4 Project Aggregation

The term "aggregation" comes into play in Step 1 of a PSD applicability analysis and describes the process of grouping together multiple, interrelated projects. If two (2) projects are determined to be interrelated

[17] 401 KAR 51:017, Section 1(4)(a)(3)

based upon a case-by-case evaluation of several factors outlined by EPA in a series of historical statutory/regulatory interpretations and applicability determinations, the applicant is required to sum the emissions changes for the projects and compare the combined project emissions increase to the SER. EPA's current project aggregation guidance established in a November 2018 final action on a prior January 2009 rulemaking establishes the concepts of "substantially related" and "technical and economic dependence" when performing project aggregation reviews for nominally-separate projects. To be substantially related, "there should be an apparent interconnection- either technically or economically- between the physical and/or operational changes, or a complementary relationship whereby a change at a plant may exist and operate independently, however its benefit is significantly reduced without the other activity."[18] The January 2009 action also included a statement that the EPA would, as a matter of policy, establish a rebuttable presumption that activities that occurred more than three (3) years apart are not "substantially related" and therefore, generally, should not be aggregated for purposes of determining whether they are a single modification at Step 1. EPA clarified that the "occurrence" of two (2) nominally separate projects within the context of the 3-year rebuttable presumption timeframe for non-aggregation is defined based on "the time period separating physical or operational changes…calculated based on time of approval (i.e., minor NSR permit issuance)." EPA further states that "if a permit has not been, or will not be, issued for the physical or operational changes, the time period should be based on when construction commences on the changes."[19]

The proposed project is not technically or economically dependent or otherwise substantially related to any prior or currently planned future project for the Real Alloy Morgantown facility. Therefore, the proposed project is evaluated for PSD applicability on a stand-alone basis as a fully independent project initiative that is not aggregated with any past or future projects.

4.6 PSD Applicability Summary

For each relevant regulated NSR pollutant, **Table 4-1** lists the PSD SER for comparison against the project emissions increases from Steps 1 and 2 of the PSD applicability analysis. As shown in **Table 4-1**, the Step 1 project emissions increases of all pollutants will be less than the SER. Thus, no contemporaneous netting analysis is required. Therefore, this permit action does not trigger PSD permitting requirements.

[18] 74 FR 2376-2383, *Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR): Aggregation and Project Netting*, January 15, 2009.

[19] *Ibid*.

Table 4-1. Proposed Project Emissions Increases Compared with PSD Significant Emission Rates

Pollutant[1]	"Step 1" Project Emissions Increase (tpy)	PSD Significant Emission Rate (tpy)[2]	Project Triggers PSD Review? (Yes/No)	Operating or Emission Limits Proposed (Yes/No)
PM	15.9	25	No	Yes
PM_{10}	10.5	15	No	Yes
$PM_{2.5}$	5.3	10	No	Yes
NO_X	8.4	40	No	No
CO	38.1	100	No	No
VOC	9.4	40	No	No
SO_2	0.083	40	No	No

1 Only those regulated NSR pollutants for which the project emissions increase could potentially exceed the SER are listed.
2 401 KAR 51:001, Section 1(222)(a) and (231).

Although the Step 1 project emissions increase does not exceed 90% of the SER for any regulated NSR pollutants, the annual potential PM emissions estimates for the new Primary and Secondary Shredder are based on a maximum exit grain loading which falls below the allowable emissions standard from SMACT (refer to Sections 2 and 3 of **Appendix C**). Use of an exit grain loading basis for the new shared baghouse serving the Primary and Secondary Shredder potentially represents a voluntary PM emissions restriction which should be addressed via a case-by-case emission limit "to preclude 401 KAR 51:017" (i.e., PSD avoidance-based emission limit) within the revised Title V permit.

As shown in **Figure 4-1**, Real Alloy is proposing PM, PM_{10}, and $PM_{2.5}$ emission limits on an annual average (12-month rolling) basis for the new Primary and Secondary Shredder that are based on a project emissions increase allocation equivalent to 90% of the SER. This approach of using 90% of the SER as the basis for PSD avoidance limits associated with new or modified sources at an existing PSD major source is consistent with the precedent from PSD avoidance permitting approaches for similar secondary aluminum facilities. The difference of the combined project emissions increases from all non-shredder affected sources (new Holding Furnace, unmodified but impacted Shredder System – Scrap Processing Operations, modified Rotary Furnace 5, modified Rotary Furnace 8, and unmodified but impacted Reverberatory Furnace) from 90% of the applicable PM/PM_{10}/$PM_{2.5}$ SER establishes the available PM/PM_{10}/$PM_{2.5}$ emissions allocation for establishing the proposed PM/PM_{10}/$PM_{2.5}$ PSD avoidance emission limits for the new Primary and Secondary Shredders. This available PM/PM_{10}/$PM_{2.5}$ emission limit allocation is then distributed to each of the Primary and Secondary Shredder emission units using the ratio of the individual source's project emissions increase from Table 1-1 of **Appendix C** to the total project emissions increases for the two new shredding systems. In this manner, the differential between the Step 1 project emissions increases from **Table 4-1** and 90% of the SER is effectively assigned to the two primary, new emission units carried in the proposed project scope. The project emissions increase of PM/PM_{10}/$PM_{2.5}$ for the remaining sources will be addressed through the "reasonable possibility" post-project emissions tracking requirements in 401 KAR 51:017 Section 16(5)(a) because the project emissions increase exceeds 50% of the SER for PM/PM_{10}/$PM_{2.5}$ (even before 90% of the SER associated with the new shredder PM/PM_{10}/$PM_{2.5}$ emission limit derivations in **Figure 4-1** is assigned).

Figure 4-1. Proposed PM, PM_{10}, and $PM_{2.5}$ PSD Avoidance Limits for New Shredders

Parameter	Value	Units	Basis
PM Significant Emission Rate	25	ton/yr	401 KAR 51:017 Section 1(218)(a)
PM10 Significant Emission Rate	15	ton/yr	401 KAR 51:017 Section 1(218)(a)
PM2.5 Significant Emission Rate	10	ton/yr	401 KAR 51:017 Section 1(218)(a)
% of SER Allocation for PSD Avoidance Limits	90%		Precedent from similar source PSD avoidance permitting
PM Project Emissions Increase (PEI) for All Sources Except New Shredders	3.31	ton/yr	15.92 tpy PM for total PEI - 8.41 tpy PM for New Primary Shredder - 4.21 tpy PM for New Secondary Shredder = 3.31 tpy PM from All Other Affected Sources
Available PM Allocation for New Shredders	19.19	ton/yr	(25.0 tpy PM for SER x 90% of SER for PSD Avoidance) - 3.31 tpy PM PEI from All Other Sources = 19.19 tpy PM PSD Avoidance Limit Allocation for New Shredders
Proposed PSD Avoidance PM Emission Limit for Primary Shredder	12.80	ton/yr	19.19 tpy PM PSD Avoidance Limit Allocation for New Shredders x 8.41 tpy PM for PEI of New Primary Shredder / 12.62 tpy PM for combined PEI of New Primary & Secondary Shredders = 12.80 tpy PM for New Primary Shredder PSD Avoidance Limit
Proposed PSD Avoidance PM Emission Limit for Secondary Shredder	6.40	ton/yr	19.19 tpy PM PSD Avoidance Limit Allocation for New Shredders x 4.21 tpy PM for PEI of New Secondary Shredder / 12.62 tpy PM for combined PEI of New Primary & Secondary Shredders = 6.40 tpy PM for New Secondary Shredder PSD Avoidance Limit
PM10 PEI for All Sources Except New Shredders	4.03	ton/yr	10.46 tpy PM10 for total PEI - 4.29 tpy PM10 for New Primary Shredder - 2.14 tpy PM10 for New Secondary Shredder = 4.03 tpy PM10 from All Other Affected Sources
Available PM10 Allocation for New Shredders	9.47	ton/yr	(15.0 tpy PM10 for SER x 90% of SER for PSD Avoidance) - 4.03 tpy PM10 PEI from All Other Sources = 9.47 tpy PM10 PSD Avoidance Limit Allocation for New Shredders
Proposed PM10 Emission Limit for Primary Shredder	6.32	ton/yr	9.47 tpy PM10 PSD Avoidance Limit Allocation for New Shredders x 4.29 tpy PM10 for PEI of New Primary Shredder / 6.43 tpy PM10 for combined PEI of New Primary & Secondary Shredders = 6.32 tpy PM10 for New Primary Shredder PSD Avoidance Limit
Proposed PM10 Emission Limit for Secondary Shredder	3.16	ton/yr	9.47 tpy PM10 PSD Avoidance Limit Allocation for New Shredders x 2.14 tpy PM10 for PEI of New Secondary Shredder / 6.43 tpy PM10 for combined PEI of New Primary & Secondary Shredders = 3.16 tpy PM10 for New Secondary Shredder PSD Avoidance Limit
PM2.5 PEI for All Sources Except New Shredders	3.39	ton/yr	5.29 tpy PM2.5 for total PEI - 1.26 tpy PM2.5 for New Primary Shredder - 0.63 tpy PM2.5 for New Secondary Shredder = 3.39 tpy PM2.5 from All Other Affected Sources
Available PM2.5 Allocation for New Shredders	5.61	ton/yr	(10.0 tpy PM2.5 for SER x 90% of SER for PSD Avoidance) - 3.39 tpy PM2.5 PEI from All Other Sources = 5.61 tpy PM2.5 PSD Avoidance Limit Allocation for New Shredders
Proposed PM2.5 Emission Limit for Primary Shredder	3.74	ton/yr	5.61 tpy PM2.5 PSD Avoidance Limit Allocation for New Shredders x 1.26 tpy PM2.5 for PEI of New Primary Shredder / 1.89 tpy PM2.5 for combined PEI of New Primary & Secondary Shredders = 3.74 tpy PM2.5 for New Primary Shredder PSD Avoidance Limit
Proposed PM2.5 Emission Limit for Secondary Shredder	1.87	ton/yr	5.61 tpy PM10 PSD Avoidance Limit Allocation for New Shredders x 0.63 tpy PM2.5 for PEI of New Secondary Shredder / 1.89 tpy PM2.5 for combined PEI of New Primary & Secondary Shredders = 1.87 tpy PM2.5 for New Secondary Shredder PSD Avoidance Limit

The only other PSD avoidance-based permit term that needs to be added to the revised Title V permit is an operating restriction associated with simultaneous operation of the existing hammermill shredder and the new Secondary Shredder when both shredder systems are feeding scrap to the scrap processing section of the existing Shredder System (EU16). This new operating limitation is necessary to support the PSD applicability analysis for the unmodified but affected scrap processing section of EU16. Without this new operating limitation, Real Alloy could hypothetically operate both the existing hammermill and new Secondary Shredder while both systems were supplying shredded scrap to the scrap processing section of EU16 in an operating configuration that is not addressed within the projected actual emissions assessment (refer to Section 5 of **Appendix C**). As discussed in Section 3.2.3.1, the existing hammermill shredder is expected to function primarily as a backup unit to the new Primary and Secondary Shredders. Any limited operation of the existing hammermill shredder that may occur after the installation of the new shredders would not happen at the same time as the Secondary Shredder is feeding shredded scrap to the scrap processing section. Any PM/PM_{10}/$PM_{2.5}$ emissions that may be associated with this limited backup operation of the existing hammermill shredder could be accommodated within the projected actual emissions allocation associated with the "continuous use" assumption for the new Secondary Shredder feeding the scrap processing section carried in Section 5.4 of **Appendix C**).

5. APPLICABLE REQUIREMENTS SUMMARY

Applicable requirements for the new and modified emission units in the project scope under NESHAP, relevant Federal air quality programs, and Kentucky SIP regulations, as applicable, are covered in this section.

A copy of the existing Title V permit provided in **Appendix E** shows markups for changes being sought through this significant revision application. As the applicable regulations currently exist in the permit and newly proposed PSD avoidance requirements are contained in the suggested permit, no DEP7007 V form is provided.

5.1 Summary of Applicable Regulations

5.1.1 NESHAP Subpart RRR – Secondary Aluminum Production

SMACT applies to numerous types of new and existing equipment that are commonly used for secondary aluminum production and that are located at a major source of HAP.

The Primary and Secondary Shredder will be classified as new aluminum scrap shredders under SMACT [40 CFR 63.1500(b)(1)]. The existing Title V permit already includes the appropriate conditions for the Primary and Secondary Shredder based on applicable operating limitations and associated monitoring, recordkeeping, and reporting requirements under SMACT for the hammermill-type Shredder System (EU16) at the Morgantown facility.

The general requirements in SMACT that will be applicable to the new Primary and Secondary Shredder will include the following:

- Update the written Operation, Maintenance, and Monitoring Plan (OMMP) within 90 days after a successful initial performance test
- Preparing a site-specific test plan prior to conducting any SMACT performance test
- Demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and report the results in a Notification of Compliance Status Report (NOCSR) to be submitted within 90 days after conducting the initial performance test
- Conduct an initial performance test within 180 days after startup and every 5 years following
- Inspect each capture and collection system at least once each calendar year
- Submit semiannual reports within 60 days after the end of each 6-month period including when no deviations of parameters have occurred
- Submit results of any performance test within 60 days after completing each test

Pursuant to 40 CFR 63.1506(c), all capture and collection systems associated with the Primary and Secondary Shredder must be designed to meet the relevant design standards found in the ACGIH Manual.[20] Monitoring requirements are specified in 40 CFR 63.1506(e) and 40 CFR 63.1510. Pursuant to 40 CFR

[20] Industrial Ventilation: A Manual of Recommended Practice, 23rd edition or appropriate chapters of the 27th edition.

63.1510(f), Real Alloy must install, calibrate, maintain, and operate a device according to the manufacturer's instruction if using a BLDS or COMS, or perform a Method 9 test at least once per day if conducting visible emissions observations to comply with the rule.

The Holding Furnace will be classified as a new Group 2 Furnace under SMACT [40 CFR 63.1500(b)(4)] because it does not support reactive chlorine fluxing and only receives aluminum materials that are classified as "clean charge." The existing Title V permit already includes the appropriate conditions for the Holding Furnace based on applicable operating limitations and associated monitoring, recordkeeping, and reporting requirements under SMACT for the Group 2 Furnace Holder (#H11) at the Morgantown facility.

The general requirements in SMACT that will be applicable to the new Holding Furnace will include the following:

- Update the written Operation, Maintenance, and Monitoring Plan (OMMP) within 90 days after a successful initial performance test
- Demonstrate initial compliance with each applicable work practice standard for each affected source and report the results in a Notification of Compliance Status Report (NOCSR) to be submitted within 90 days of initial startup because no initial performance testing is required for Group 2 furnaces
- Inspect labels for each Group 2 furnace at least monthly
- Submit semiannual reports within 60 days after the end of each 6-month period including when no deviations of parameters have occurred

Monitoring requirements are specified in 40 CFR 63.1510. Pursuant to 40 CFR 63.1510(r), Real Alloy must record a description of the materials charged to the furnace, including any nonreactive, non-HAP containing/non-HAP generating fluxing materials and agents. A certification of compliance with the applicable operational standard for charge materials in 40 CFR 63.1506(o) for each 6-month reporting period.

Rotary Furnace 5, Rotary Furnace 8, and the Reverberatory Furnace are classified as existing Group 1 furnaces with add-on air pollution control devices under SMACT [40 CFR 63.1500(b)(8)]. The existing Title V permit already includes the appropriate conditions for the Group 1 Furnaces on applicable operating limitations and associated monitoring, recordkeeping, and reporting requirements under SMACT for the Morgantown facility. No re-testing is planned as a result of modifications to Rotary Furnaces 5 and 8 as there will be no effect on the SMACT regulated pollutant emissions profile or associated parametric operating limits for the furnaces or their associated control devices.

5.1.2 401 KAR 59:010 – New Process Operations

Particulate emissions from new process operations (commenced on or after July 2, 1975) not subject to other new source standards are regulated by 401 KAR 59:010. The affected facilities regulated by this standard included any "method, form, action, operation, or treatment of manufacturing or processing, and shall include any storage or handling of materials or products, before, during, or after manufacturing or processing." The new Primary and Secondary Shredders and new Holding Furnace are all subject to this regulation.

Section 3 of 401 KAR 59:010 establishes opacity and PM mass emissions standards. Opacity of continuous emissions (i.e., visible emissions of particulate matter persisting for more than three (3) minutes) shall not equal or exceed 20 percent from a control device or stack associated with an affected facility. The mass

emissions standard for particulate emissions into the open air from a control device or stack is limited based on the process weight rate. A different process weight-based allowable emission rate algorithm applies depending on if the process weight for the affected operation is above or below 60,000 lb/hr (i.e., 30 ton/hr). For each significant emission unit that will be listed in Section B of the revised Title V permit, Real Alloy has provided the process weight rate to be used in the derivation of the allowable hourly PM emission rate in the DEP 7007 FF form included in **Appendix D**. The existing applicable requirements from 401 KAR 59:010 currently applied to the existing Shredder System (EU16) and existing Holding Furnace (#H11) (EU17) can generally be carried forward to apply to the new Primary and Secondary Shredder and new Holding Furnace, respectively.

5.1.3 401 KAR 63:020 – Potentially Hazardous Matter or Toxic Substances

Kentucky regulates the emissions of toxic air pollutant emissions through 401 KAR 63:020. KDAQ can require that dispersion modeling or other analyses be completed by facilities at permit renewal or when constructing or modifying equipment when there is an increase in air toxic pollutant emissions, as defined in 401 KAR 63:020 Section 2(2), deemed to be significant. This is done so that there is a documented basis for affirming that a facility does not cause an adverse impact. However, pursuant to 401 KAR 63:020, Section 1, the requirements of this rule are applicable only to the extent that such emissions are not elsewhere subject to the provisions of the Kentucky Administrative Regulations.

The aluminum melting operations at the Morgantown facility are a source of some HAP/air toxic emissions. The aluminum melting operations however are regulated under the SMACT and thus are exempt from 401 KAR 63:020. Similarly, the aluminum holding operations performed in the existing Holding Furnace (#H11) (EU17) are a potential source of HAP/air toxics emissions from natural gas combustion and clean charge processing, but both this existing holding furnace and the proposed new holding furnace are designated as "de minimis" HAP/air toxics emission sources by virtue of their Group 2 furnace status in SMACT. KDAQ has previously reviewed and concluded that there is no potential for adverse air toxics impacts from these source types based on their SMACT coverage and associated exemption from applicability of 401 KAR 63:020. Thus, no air dispersion modeling analysis has been prepared for this application.

5.1.4 Compliance Assurance Monitoring

Under 40 CFR 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emission units with a Title V application. The CAM plans are intended to document methods that will provide on-going and reasonable assurance of compliance with emission limits. Pursuant to §64.2(a), the CAM regulations apply to a pollutant-specific emissions unit (PSEU), as defined in §64.1, at a major Title V source if the following criteria are met:

1. the PSEU is subject to an emission limitation or standard for the regulated pollutant, other than an emission limitation or standard that is exempt under §64.2(b),
2. the PSEU uses a control device as defined in §64.1 to achieve compliance with the emission limitation, and
3. the PSEU has potential pre-controlled emissions of the applicable regulated air pollutant that are equal to or greater than Title V major source thresholds.

The only emission unit at the Morgantown facility equipped with a control device with pre-controlled emissions above the major source threshold and that is also subject to an emission limitation is the Salt Cake Processing Facility (EU06).

Both the new Primary and Secondary Shredders will use a shared baghouse to achieve compliance with the PM emission limitation derived from the SMACT, the process weight rule (PWR) PM emission limitation derived from 401 KAR 59:010, and the proposed PM/PM_{10}/$PM_{2.5}$ PSD avoidance limits included in this application. The pre-controlled potential emissions of PM from the Primary Shredder is greater than 100 tpy as represented in of the DEP 7007N form provided in **Appendix D**. The SMACT-derived PM emission limitation is exempt from CAM consideration as the SMACT rule was proposed after the relevant CAM classification date of November 15, 1990. However, the PWR PM and PM/PM_{10}/$PM_{2.5}$ emission limitations are not exempt from CAM consideration. Potential controlled emissions of PM from the Primary Shredder are less than 100 tpy, classifying the Primary Shredder as "other PSEU" under CAM. Therefore, CAM applicability for PM will be triggered upon submittal of the first permit application for a significant permit revision affecting emissions from a Large PSEU at the Morgantown facility or upon submittal of the first Title V renewal application that includes these emission units.

5.2 Summary of Precluded Regulations

5.2.1 Operating/Emission Limits to Preclude Applicability to 401 KAR 51:017

As shown in the suggested Title V permit provided in **Appendix E** and discussed in Section 4.6, Real Alloy is proposing PM, PM_{10}, and $PM_{2.5}$ emission limits for PSD avoidance applicable to the new Primary and Secondary Shredders and a new operating limitation for the scrap processing section of the existing Shredder System (EU16).

6. PROPOSED TITLE V PERMIT CHANGES

To accommodate the proposed project new and modified equipment scope covered by this application, changes will need to be made in an amended Title V permit for the facility. To assist in KDAQ's review and processing of the application and the development of an amended Draft Permit, this section of the application highlights the key changes that will need to be considered. These highlighted changes are meant to be reviewed in concert with the suggested permit included as **Appendix E** to this application, which shows the suggested text additions/strike-outs along with comments where changes are made.

The following categories of changes are reflected in the suggested permit:

- Changes directly related to this proposed project:
  - Addition of the Primary Shredder and Secondary Shredder.
  - Replacement of the EU19 Holding Furnace originally planned for installation with Rotary Furnace (RA1) with the new Holding Furnace associated with the modified Rotary Furnace 5.
  - Updating the existing Shredder System (EU16) to clarify it consists of a hammermill shredder and downstream shredded scrap processing operations.
  - Moving Rotary Furnace #5 from Section H to Section B and removing Rotary Furnace (RA1) as it is no longer planned for installation.
  - Updating the Rotary Furnace #5 burner rating to reflect the burner replacement.
  - Adding PSD avoidance limits for PM/PM_{10}/$PM_{2.5}$ for the Primary and Secondary Shredders.
  - Adding modification dates for Rotary Furnace #5 and Rotary Furnace #8.
- Changes related to other ongoing compliance activities associated with existing applicable requirements:
  - As discussed with KDAQ previously (via calls on January 10th and January 19th, 2024) with respect to repeat testing of Rotary Furnace #8 and #9, Real Alloy is requesting removal of the PM/PM_{10}/$PM_{2.5}$ lb/ton emission limits for PSD avoidance and the compliance demonstration method for direct comparison of tested emission rates to these limits. This is not consistent with the VOC PSD avoidance limits directly preceding the PM/PM_{10}/$PM_{2.5}$ limits nor historical precedent associated with the approach for establishing PSD avoidance limits. PSD avoidance is a process determined by the SER which solely apply on an annual average basis. Short-term or performance test-based "pass/fail" type emission limits are not necessary to be established for PSD avoidance to ensure that actual annual emissions remain below the SER for a specific project. Rather, individual emission unit or emission unit grouping-based emission limits should only be established on a long-term/annual average basis to ensure PSD avoidance is achieved in practice. Consistent with this PSD avoidance framework and for the sake of consistency across the suite of all PSD avoidance limits contained in the Title V permit, Real Alloy requests that the stack testing-based lb/ton emission limits for PM, PM_{10}, and $PM_{2.5}$ applicable to Rotary Furnace #8 and #9 be removed from the permit.
  - Updated the Appendix A CAM Plan for the Salt Cake Processing Facility baghouses' differential pressure range to be more representative of recent operational status.
- Changes for historical permit clean-up:
  - Removal of two insignificant activities that are no longer planned for installation.
  - Adding the crucible preheater stations from the off-permit change submitted October 6, 2023.

- Removal of EU references within Section B, where the EU section is specific to one unit.
- Ensuring monitoring and recordkeeping requirements are aligned.
- Updates for consistency amongst the emission units.

APPENDIX A. REVISED EMISSION UNIT INDEX

Current Emission Unit Inventory for the Real Alloy Morgantown Facility

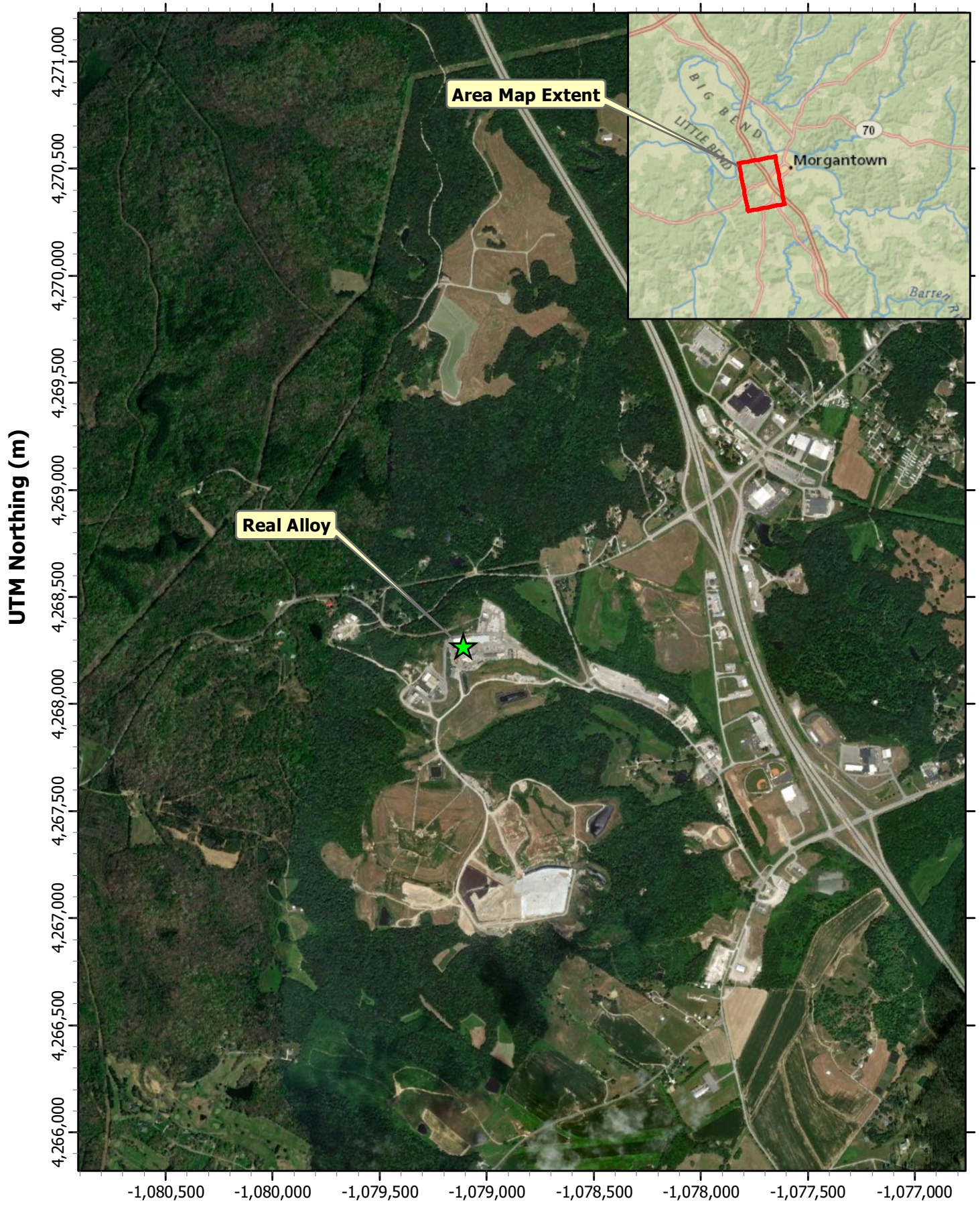
*Green shading indicates additions; grayed out row indicates removal

Title V Unit ID	Title V Emission Unit Description	Title V Sources to Control Device	Control Description	Control Device ID	Control Device Name	Stack ID	Equipment ID	EU Source ID	Process ID	Process Description
EU02	Delacquering Furnace	EU02 and EU03	Afterburner LI BH	BH 7	Baghouse 7	S2	COMB3, 002	002	1	Tons of Aluminum
EU02	Delacquering Furnace	EU02 and EU03	Afterburner LI BH	BH 7	Baghouse 7	S2	COMB3, 002	002	2	Natural Gas Usage
EU03	Reverberatory Furnace	EU02 and EU03	LI BH	BH 7	Baghouse 7	S3	COMB2, 003	003	1	Reverb & Sidewell Melting
EU03	Reverberatory Furnace	EU02 and EU03	LI BH	BH 7	Baghouse 7	S3	COMB2, 003	003	2	Natural Gas Usage
EU04	Rotary Furnace #5	EU04	LI BH	BH 13	Baghouse 13	S4	COMB1, 004	004	1	Charging & Melting
EU04	Rotary Furnace #5	EU04	LI BH	BH 13	Baghouse 13	S4	COMB1, 004	004	2	Natural Gas Usage
EU06	Salt Cake Processing Facility	EU06	BH (3)		Baghouse H #4 Baghouse J #14A Baghouse K #3	S6	EQPT3, 006	006	1	Tons of Salt Cake
EU07	Salt Cake Cooling (Mud Room)	EU07	BH	BH 16	Baghouse 16	S7	EQPT4, 007	007	1	Tons of Byproduct
EU08	Landfill Area	EU08	Water Suppression	na	na	na	EQPT6, 008	008	1	Landfill Reject Dumping
EU08	Landfill Area	EU08	Water Suppression	na	na	na	EQPT6, 008	008	2	Haul Road
EU13	Rotary Furnace #8	EU13	LI BH	BH 11	Baghouse 11	S13	COMB4, 013	013	1	Stack: Dross, Cncntrt, Salt Ck
EU13	Rotary Furnace #8	EU13	LI BH	BH 11	Baghouse 11	S13	COMB4, 013	013	2	Fug: Dross, Cncntrt, Salt Ck
EU13	Rotary Furnace #8	EU13	LI BH	BH 11	Baghouse 11	S13	COMB4, 013	013	3	Stack: All Other Charge
EU13	Rotary Furnace #8	EU13	LI BH	BH 11	Baghouse 11	S13	COMB4, 013	013	4	Natural Gas Usage
EU13	Rotary Furnace #8	EU13	LI BH	BH 11	Baghouse 11	S13	COMB4, 013	013	5	Fug: All Other Charge
EU14	Rotary Furnace #9	EU14	LI BH	BH 12	Baghouse 12	S14	COMB5, 014	014	1	Stack: Dross, Cncntrt, Salt Ck
EU14	Rotary Furnace #9	EU14	LI BH	BH 12	Baghouse 12	S14	COMB5, 014	014	2	Fug: Dross, Cncntrt, Salt Ck
EU14	Rotary Furnace #9	EU14	LI BH	BH 12	Baghouse 12	S14	COMB5, 014	014	3	Stack: All Other Charge

Appendix A - Revised Emission Unit Index

Title V Unit ID	Title V Emission Unit Description	Title V Sources to Control Device	Control Description	Control Device ID	Control Device Name	Stack ID	Equipment ID	EU Source ID	Process ID	Process Description
EU14	Rotary Furnace #9	EU14	LI BH	BH 12	Baghouse 12	S14	COMB5, 014	014	4	Natural Gas Usage
EU14	Rotary Furnace #9	EU14	LI BH	BH 12	Baghouse 12	S14	COMB5, 014	014	5	Fug: All Other Charge
EU16	Shredder System	EU16	BH	Shredder BH	Shredder Baghouse		EQPT9, 016	016	1	Shredder Primary
EU16	Shredder System	EU16	BH	na	na	na	EQPT9, 016	016	2	Shredder Fugitives
EU17	Holding Furnace (#H11)	EU17	None	na	na	S17	COMB7, 017	017	1	Natural Gas Usage
EU18	Rotary Furnace (RA1)	EU18	LI BH					018	1	Stack
EU18	Rotary Furnace (RA1)	EU18	LI BH					018	2	Fugitives
EU18	Rotary Furnace (RA1)	EU18	LI BH					018	3	Natural Gas Usage
EU19	Holding Furnace	EU19	None	na	na			019	1	Natural Gas Usage
EU20	Salt Cake Pre-Processing Operation	EU20	BH	BH 16	Mud Room Baghouse	S7	TBD	020	1	Tons of Salt Cake
EU21	**Primary Shredder**	**EU21**	**BH**	**BH 17**	**Shredder Baghouse 2**	**S18**	**TBD**	**021**	**1**	**Shredder Primary**
EU21	**Primary Shredder**	**EU21**	**BH**	**na**	**na**	**na**	**TBD**	**021**	**2**	**Shredder Fugitives**
EU22	**Secondary Shredder**	**EU22**	**BH**	**BH 17**	**Shredder Baghouse 2**	**S18**	**TBD**	**022**	**1**	**Shredder Secondary**
EU22	**Secondary Shredder**	**EU22**	**BH**	**na**	**na**	**na**	**TBD**	**022**	**2**	**Shredder Fugitives**
EU23	**Holding Furnace**	**EU23**	**None**	**na**	**na**	**S19**	**TBD**	**023**	**1**	**Aluminum Production**
EU23	**Holding Furnace**	**EU23**	**None**	**na**	**na**	**S19**	**TBD**	**023**	**2**	**Natural Gas Usage**

APPENDIX B. SITE PLANS AND PROCESS FLOW DIAGRAMS



All Coordinates shown in UTM Coordinates,
Zone 16, NAD 83 Datum

Melting Operations

EP - S16
Shredder Baghouse
Scrap
(Hammermill) **Shredder** *(EU16)*
Shredded Scrap

EP – TBD
Baghouse
Scrap
Primary Shredder *(EU TBD)*
Secondary Shredder *(EU TBD)*
Shredded Scrap

Concentrate
Loose Scrap

Cross Belt Magnet Separator
Air Knife
Eddy Current Separators
Shredded Scrap Processing

EP – S2
Baghouse 7
EP – S7
Baghouse 16
Salt Cake from furnaces

Sorted Scrap

Staging Bays

Mud Room/Pre-Processing *(EU7/EU20)*

Delacquering Furnace *(EU02)*

Delacquering Furnace Afterburner

Scrap/ Concentrate

EP - S13
Baghouse 11
Rotary Furnace #8 *(EU13)*
Sows
Crucibles
Salt Cake

EP - S14
Baghouse 12
Rotary Furnace #9 *(EU14)*
Salt Cake
Crucibles
Sows

EP - S17
Holding Furnace (#H11) *(EU17)*
Sows

Uncontrolled Flue Stack
Reverberatory Furnace *(EU03)*
Molten Metal
Sows
Crucibles
Dross

Scrap/ Concentrate

EP – S4
Baghouse 13
Rotary Furnace #5 *(EU04)*
Sows
Salt Cake

EP - TBD
Holding Furnace *(EU TBD)*
Sows
Crucibles

Legend
are KyEIS Source IDs (Title V EU Number)
New Equipment
Material Flow
Emissions Flow

REAL ALLOY
Morgantown, Kentucky

Melting Operations

Trinity Consultants

APPENDIX C. EMISSION CALCULATIONS

1. Project Emissions Increase Summary

Table 1-1 tallies the project emission increases from the proposed project, calculated in accordance with 401 KAR 51:017 Section 1(4). The method applied in calculating the emissions change for each category of emission unit is as follows:

> For new emission units, values are the future potential emissions, taking into account inherent operating limitations and control device configurations.

> For both existing modified emission units and existing unmodified emission units that will have emissions changes caused by the project, values are the actual-to-projected actual emission changes.

Table 1-1 Project Emissions Increases for Regulated NSR Pollutants [1]

Title V Emission Unit ID	Emission Unit Description	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	NO_X (tpy)	CO (tpy)	VOC (tpy)	SO_2 (tpy)	GHG (tpy, CO_2e)
New Emission Units									
	Primary Shredder	8.41	4.29	1.26	--	--	--	--	--
	Secondary Shredder	4.21	2.14	0.63	--	--	--	--	--
	Holder	0.23	0.27	0.26	2.40	3.48	0.11	0.025	5,026
Total for New Units		12.85	6.71	2.15	2.40	3.48	0.11	0.025	5,026
Modified/Associated Existing Emission Units									
	Shredder System- Scrap Processing Operations (Associated Unit)	Negative	Negative	Negative	--	--	--	--	--
	Rotary Furnace 5 (Modified Unit)	0.40	1.06	0.85	2.24	14.28	4.45	6.94E-03	1,401
	Rotary Furnace 8 (Modified Unit)	0.67	0.48	0.20	1.12	13.97	4.50	5.50E-03	1,112
	Reverberatory Furnace (Associated Unit)	2.01	2.21	2.08	2.63	6.37	0.38	0.046	9,197
Total for Modified/Associated Units		3.08	3.75	3.14	6.00	34.63	9.33	0.058	11,710
Total Project Emissions Increase (tpy)		**15.9**	**10.5**	**5.3**	**8.4**	**38.1**	**9.4**	**0.083**	**16,736**
Total Project Emissions Increase (% of SER)		64%	70%	53%	21%	38%	24%	0%	22%
PSD Significant Emission Rate (SER)[2]		25	15	10	40	100	40	40	75,000
PSD Emissions Increase > SER?		**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

[1] For other regulated NSR pollutants not listed, emission increases are negligible or not reasonably quantifiable and in any case would fall far below their respective PSD Significant Emission Rates. As described in the application narrative, the emission increases only (no decreases) for all affected emissions units for the proposed project are summed to determine the project emissions increase for each pollutant.

[2] The 75,000 tpy CO_2e PSD triggering threshold for GHGs is not a Significant Emission Rate with the same meaning as the SER for the other regulated NSR pollutants, but a net project emissions increase above this emissions level along with a net emissions increase of a regulated NSR pollutant above the SER would make GHGs subject to regulation for the project. As a "subject to regulation" pollutant, Real Alloy would be required to conduct a PSD review for GHGs.

2. Scrap Processing Line - Primary Shredder Emissions Summary

> A new Primary Shredder will be used to de-bale/shred purchased aluminum scrap in preparation for further downstream processing (i.e., secondary shredding in the new Secondary Shredder and subsequent cleaning, separation, and sorting in the scrap processing section of the existing Shredder System (EU16) and/or direct feeding and melting in the furnaces). The scrap mix expected to be processed by the new Primary Shredder will generally consist of the same scrap types currently processed in the existing Shredder System, but the new Primary Shredder will provide enhanced capabilities for more effectively processing selected scrap inputs. The new Primary Shredder will contain equipment classified as a new aluminum scrap shredder under the National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production defined under 40 CFR 63, Subpart RRR (i.e., herein referred to as SMACT).

2.1 Baghouse Stack Emission Factor for Scrap Processing Line - Primary Shredder

> Emissions from the new Primary and Secondary Shredder will be collected and routed to a new shared baghouse for PM emissions control.

> Potential emissions for PM are estimated using an emission factor derived from the baghouse's emissions performance (as exit grain loading) design basis. Emission factors are derived on a lb/SCC unit basis (i.e., lb/ton Al) using the baghouse exit grain loading design basis, baghouse flow capacity allocation for the Primary Shredder, and the rated aluminum throughput capacity of the associated Primary Shredder.

> Filterable particulate emissions are speciated into filterable PM10 and filterable PM2.5 size fractions based on EPA's *PM Calculator* database for the relevant Source Classification Code (SCC) associated with secondary aluminum scrap shredding operations.

> The PM control efficiency assigned to the new Primary and Secondary Shredder shared baghouse to calculate the uncontrolled emission factor matches the nominal PM control efficiency for the existing Shredder System (EU16) baghouse.

> The uncontrolled PM/PM10/PM2.5 emission factor derivation for the new Primary Shredder is presented here for reference in the DEP7007 N forms.

Parameter	Value	Basis
Controlled Filt. PM Emission Factor (Grain Loading Basis)	4.00E-03 gr/dscf	Maximum expected exit grain loading for filter media per baghouse vendor.
Filt. PM10 to Filt. PM Ratio Filt. PM2.5 to Filt. PM Ratio	0.51 -- 0.15 --	EPA's PM Calculator for appropriate SCC
Controlled Filt. PM10 Emission Factor (Grain Loading Basis)	2.04E-03 gr/dscf	4.00E-03 gr filt. PM/dscf x 0.51 lb filt. PM10/lb filt. PM = 2.04E-03 gr PM10/dscf
Controlled Filt. PM2.5 Emission Factor (Grain Loading Basis)	6.00E-04 gr/dscf	4.00E-03 gr filt. PM/dscf x 0.15 lb filt. PM2.5/lb filt. PM = 6.00E-04 gr PM2.5/dscf
Baghouse Flow Capacity Allocation to Primary Shredder	33,333 dscfm	Equivalent to two-thirds of the 50,000 acfm flow capacity for new baghouse, nominal stack exit temperature of 68 deg. F, and 0 moisture fraction.
Maximum Hourly Aluminum Process Rate	38 ton/hr	Design aluminum processing capacity of new primary shredder
Nominal PM/PM10/PM2.5 Control Efficiency of Shred Line Baghouse	97%	From Facility General Report for existing shredder baghouse
Uncontrolled Filt. PM Emission Factor (Production Basis)	1.00 lb/ton	4.00E-03 gr filt. PM/dscf x 33,333 dscf/min x 60 min/hr x 1 lb / 7,000 gr x 1 / 38 ton Al/hr x 1 / (1 - 97%) = 1.00 lb PM/ton Al
Uncontrolled Filt. PM10 Emission Factor (Production Basis)	0.51 lb/ton	1.00 lb PM/ton x 0.51 lb filt. PM10/lb filt. PM = 0.51 lb PM10/ton
Uncontrolled Filt. PM2.5 Emission Factor (Production Basis)	0.15 lb/ton	1.00 lb PM/ton x 0.15 lb filt. PM2.5/lb filt. PM = 0.15 lb PM2.5/ton

2.2 Uncaptured PM Emissions Estimate for Scrap Processing Line - Primary Shredder

> Each hood and exhaust pickup point serving equipment in the Primary Shredder will be designed and operated in accordance with the applicable ACGIH design requirements specified in 40 CFR 63.1506(c).

> Real Alloy has developed a worst-case estimate for uncaptured PM emissions released as fugitive emissions from the new Primary Shredder planned to be installed outside and not enclosed within any type of building/structure. This estimate is based on a capture efficiency for the Primary Shredder's capture and collection system (CCS) of 98% to account for the brief and intermittent periods when the capture and collection system may not achieve 100% capture efficiency. During these "excursion" periods representing less than 2% of the operating time for the Primary Shredder, a small portion of the emissions that would normally be routed to the hood may escape. Applying a 98% overall capture efficiency to this situation would imply the capture efficiency drops to 0% during any excursion when in fact the capture efficiency is still expected to be high just not 100% as it is during all other operating periods.

Parameter	Value	Basis
Shred Line Capture Efficiency	98%	Conservative engineering estimate for worst-case capture system losses based on guidance from ventilation system vendors and precedent from similar facility permitting files.
Uncapt. Filt. PM Emissions Released into Building (Production Basis)	0.020 lb/ton	1.00 lb uncont. filt. PM/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 0.020 lb uncapt. filt. PM/ton AI
Uncapt. Filt. PM10 Emissions Released into Building (Production Basis)	0.010 lb/ton	0.51 lb uncont. filt. PM10/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 0.010 lb uncapt. filt. PM10/ton AI
Uncapt. Filt. PM2.5 Emissions Released into Building (Production Basis)	3.07E-03 lb/ton	0.15 lb uncont. filt. PM2.5/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 3.07E-03 lb uncapt. filt. PM2.5/ton AI
Assumed Building Removal Efficiency	0%	Process is located outdoors without the benefit of additional building removal of uncaptured PM emissions
Uncaptured Filt. PM Emission Factor (Production Basis)	0.020 lb/ton	0.020 lb uncapt. filt. PM/ton x (1 - 0% building removal eff.) = 0.020 lb uncapt. filt. PM/ton AI
Uncaptured Filt. PM10 Emission Factor (Production Basis)	0.010 lb/ton	0.010 lb uncapt. filt. PM10/ton x (1 - 0% building removal eff.) = 0.010 lb uncapt. filt. PM10/ton AI
Uncaptured Filt. PM2.5 Emission Factor (Production Basis)	3.07E-03 lb/ton	3.07E-03 lb uncapt. filt. PM2.5/ton x (1 - 0% building removal eff.) = 3.07E-03 lb uncapt. filt. PM2.5/ton AI

2.3 Potential Emission Calculations for Primary Shredder

Pollutant	Controlled Stack Emission Factor	Uncaptured Emission Factor	Maximum Hourly Process Rate (ton/hr)	Maximum Annual Process Rate (ton/yr)	Future Potential Stack Emissions (tpy)	Future Potential Uncaptured Emissions (tpy)	Future Potential Total Emissions (tpy)
PM	0.030 lb/ton	0.020 lb/ton	38.0	332,880	5.01	3.41	8.41
PM10	0.015 lb/ton	0.010 lb/ton	38.0	332,880	2.55	1.74	4.29
PM2.5	4.51E-03 lb/ton	3.07E-03 lb/ton	38.0	332,880	0.75	0.51	1.26

3. Scrap Processing Line - Secondary Shredder Emissions Summary

> A new Secondary Shredder will be used to further shred to a smaller size the shredded scrap stream from the new Primary Shredder in preparation for further downstream processing (i.e., cleaning, separation, and sorting in the scrap processing section of the existing Shredder System (EU16) and/or direct feeding and melting in the furnaces). The new Secondary Shredder will contain equipment classified as a new aluminum scrap shredder under the National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production defined under 40 CFR 63, Subpart RRR (i.e., herein referred to as SMACT).

3.1 Baghouse Stack Emission Factor for Scrap Processing Line - Secondary Shredder

> Emissions from the new Primary and Secondary Shredder will be collected and routed to a new shared baghouse for PM emissions control. Therefore, the filterable PM stack emission factor derivation, assigned filterable PM10 and PM2.5 emissions ratios, and assigned PM control efficiency all follow the same approach documented in Section 2.1 for the Primary Shredder.

Parameter	Value		Basis
Controlled Filt. PM Emission Factor (Grain Loading Basis)	4.00E-03	gr/dscf	Maximum expected exit grain loading for filter media per baghouse vendor.
Filt. PM10 to Filt. PM Ratio Filt. PM2.5 to Filt. PM Ratio	0.51 0.15	-- --	EPA's PM Calculator for appropriate SCC
Controlled Filt. PM10 Emission Factor (Grain Loading Basis)	2.04E-03	gr/dscf	4.00E-03 gr filt. PM/dscf x 0.51 lb filt. PM10/lb filt. PM = 2.04E-03 gr PM10/dscf
Controlled Filt. PM2.5 Emission Factor (Grain Loading Basis)	6.00E-04	gr/dscf	4.00E-03 gr filt. PM/dscf x 0.15 lb filt. PM2.5/lb filt. PM = 6.00E-04 gr PM2.5/dscf
Baghouse Flow Capacity Allocation to Secondary Shredder	16,667	dscfm	Equivalent to one-third of the 50,000 acfm flow capacity for new baghouse, nominal stack exit temperature of 68 deg. F, and 0 moisture fraction.
Maximum Hourly Aluminum Process Rate	19	ton/hr	Design aluminum processing capacity of new secondary shredder
Nominal PM/PM10/PM2.5 Control Efficiency of Shred Line Baghouse	97%		From Facility General Report for existing shredder baghouse
Uncontrolled Filt. PM Emission Factor (Production Basis)	1.00	lb/ton	4.00E-03 gr filt. PM/dscf x 16,667 dscf/min x 60 min/hr x 1 lb / 7,000 gr x 1 / 19 ton Al/hr x 1 / (1 - 97%) = 1.00 lb PM/ton Al
Uncontrolled Filt. PM10 Emission Factor (Production Basis)	0.51	lb/ton	1.00 lb PM/ton x 0.51 lb filt. PM10/lb filt. PM = 0.51 lb PM10/ton
Uncontrolled Filt. PM2.5 Emission Factor (Production Basis)	0.15	lb/ton	1.00 lb PM/ton x 0.15 lb filt. PM2.5/lb filt. PM = 0.15 lb PM2.5/ton

3.2 Uncaptured PM Emissions Estimate for Scrap Processing Line - Secondary Shredder

> Each hood and exhaust pickup point serving equipment in the Secondary Shredder will be designed and operated in accordance with the applicable ACGIH design requirements specified in 40 CFR 63.1506(c).

> The same worst-case uncaptured emission factor derivation approach based on assuming a 98% capture efficiency documented in Section 2.2 for the Primary Shredder is also applied for the Secondary Shredder below.

Parameter	Value	Basis
Shred Line Capture Efficiency	98%	Conservative engineering estimate for worst-case capture system losses based on guidance from ventilation system vendors and precedent from similar facility permitting files.
Uncapt. Filt. PM Emissions Released into Building (Production Basis)	0.020 lb/ton	1.00 lb uncont. filt. PM/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 0.020 lb uncapt. filt. PM/ton AI
Uncapt. Filt. PM10 Emissions Released into Building (Production Basis)	0.010 lb/ton	0.51 lb uncont. filt. PM10/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 0.010 lb uncapt. filt. PM10/ton AI
Uncapt. Filt. PM2.5 Emissions Released into Building (Production Basis)	3.07E-03 lb/ton	0.15 lb uncont. filt. PM2.5/ton / 98% capt. eff. x (1 - 98% capt. eff.) = 3.07E-03 lb uncapt. filt. PM2.5/ton AI
Assumed Building Removal Efficiency	0%	Process is located outdoors without the benefit of additional building removal of uncaptured PM emissions
Uncaptured Filt. PM Emission Factor (Production Basis)	0.020 lb/ton	0.020 lb uncapt. filt. PM/ton x (1 - 0% building removal eff.) = 0.020 lb uncapt. filt. PM/ton AI
Uncaptured Filt. PM10 Emission Factor (Production Basis)	0.010 lb/ton	0.010 lb uncapt. filt. PM10/ton x (1 - 0% building removal eff.) = 0.010 lb uncapt. filt. PM10/ton AI
Uncaptured Filt. PM2.5 Emission Factor (Production Basis)	3.07E-03 lb/ton	3.07E-03 lb uncapt. filt. PM2.5/ton x (1 - 0% building removal eff.) = 3.07E-03 lb uncapt. filt. PM2.5/ton AI

3.3 Potential Emission Calculations for Secondary Shredder

Pollutant	Controlled Stack Emission Factor	Uncaptured Emission Factor	Maximum Hourly Process Rate (ton/hr)	Maximum Annual Process Rate (ton/yr)	Future Potential Stack Emissions (tpy)	Future Potential Uncaptured Emissions (tpy)	Future Potential Total Emissions (tpy)
PM	0.030 lb/ton	0.020 lb/ton	19.0	166,440	2.50	1.70	4.21
PM10	0.015 lb/ton	0.010 lb/ton	19.0	166,440	1.28	0.87	2.14
PM2.5	4.51E-03 lb/ton	3.07E-03 lb/ton	19.0	166,440	0.38	0.26	0.63

4. Holding Furnace for Rotary Furnace 5

> A new Holding Furnace with a metal holding capacity of 60,000 lb will be installed after Rotary Furnace 5 to expand the casting and crucible storage capacity of the melting operations. The Holding Furnace will be uncontrolled, with emissions mainly from natural gas combustion. As a furnace that only processes clean charge and does not use reactive chlorine or fluorine containing flux materials, the new Holding Furnace will be designated as a Group 2 furnace under SMACT.

4.1 Holding Furnace Process Rates: Metal Throughput and Gas Firing Rate

4.1.1 Metal Processing Capacity

Maximum Hourly Aluminum Throughput:	4.20	ton/hr	
Maximum Annual Aluminum Throughput:	36,792	ton/yr	Continuous annual operations

4.1.2 Furnace Natural Gas Firing Rate

Maximum Burner Heat Input Capacity:	9.8	MMBtu/hr	
Heating Value of Natural Gas at Plant:	1,035	Btu/scf	Site-specific natural gas HHV
Maximum Hourly Natural Gas Usage:	9.47E-03	MMscf/hr	= 9.8 MMBtu/hr / 1,035 Btu/scf
Maximum Annual Natural Gas Usage:	82.9	MMscf/yr	Continuous annual operations

4.2 Documentation of Emission Factors Used for Holding Furnaces

4.2.1 PM Emission Factors Tied to Aluminum Metal Production

> Filterable PM emissions from the new Holding Furnace are estimated based on a stack test for a similar furnace operation at Real Alloy's Coldwater, MI facility.

> Filt. particulate emissions are speciated into filt. PM10 and filt. PM2.5 size fractions based on "Test Report - Particulate Matter Study at Three Representative Sources at Aluminum Recycling and Rolling Facilities", Prepared for the Aluminum Association by TRC Environmental, Project No. 157428, January 19, 2009 (herein referred to as the TRC Report).

Parameter	Value	Basis
Stack Emissions		
Filt. PM Emission Factor	0.013 lb/ton	Similar unit test data from Real Alloy, Coldwater, MI facility
Ratio of Filt. PM>10 to Filt. PM	0.15	*Particulate Matter Study at Three Representative Sources at Aluminum Recycling and Rolling Facilities, January 19, 2009*, "Box-Type Furnace Stack", TRC Report prepared for Aluminum Association.
Ratio of Filt. PM10-2.5 to Filt. PM	0.067	
Ratio of Filt. PM2.5 to Filt. PM	0.79	
Ratio of Filt. PM to Total PM	0.75	
Ratio of Cond. PM to Total PM	0.25	
Filt. PM10 to Filt. PM Ratio	0.85	
Filt. PM2.5 to Filt. PM Ratio	0.79	
Filt. PM10 Emission Factor	0.011 lb/ton	= 0.013 lb filt. PM/ton x 0.85 filt. PM10/filt. PM
Filt. PM2.5 Emission Factor	0.010 lb/ton	= 0.013 lb filt. PM/ton x 0.79 filt. PM2.5/filt. PM
Condensable PM Emission Factor	4.18E-03 lb/ton	= (0.013 lb filt. PM/ton / 0.75 lb filt. PM/lb total PM) - 0.013 lb filt. PM/ton
Total PM10 Emission Factor	0.015 lb/ton	= 0.011 lb filt. PM10/ton + 4.18E-03 lb cond. PM/ton
Total PM2.5 Emission Factor	0.014 lb/ton	= 0.010 lb filt. PM2.5/ton + 4.18E-03 lb cond. PM/ton

4.2.2 VOC Emission Factor Tied to Aluminum Metal Production

> Minimal organic compounds will be present in the holding furnace. If any oil is present on the metal surface, it would be evaporated and combusted in the melting furnace. The holding furnace VOC emission factor from similar source testing contains both aluminum processing and natural gas fuel usage contributions.

Parameter	Value	Basis
Stack Emissions		
VOC Emission Factor	6.13E-03 lb/ton	Similar unit test data from Real Alloy, Coldwater, MI facility

4.2.3 NOX Emission Factor Tied to Natural Gas Combustion

> Potential emissions of NOX from the Holding Furnace is calculated based on emissions estimates provided by prospective furnace burner vendors.

Parameter	Value	Basis
NOX Exhaust Concentration	46 ppmv	Vendor estimate
NO2 Molecular Weight	46 lb/lbmol	Consistent with Method 19, assume all NOX is NO2
Molar Volume Conversion Factor	386 scf/lbmol	Ideal gas law at 68 deg. F and 1 atm
NOX Exhaust Concentration	5.49E-06 lb NOX/dscf	= 46 lbmol NOX/1E6 lbmol gas x 46 lb NO2/1 lbmol NO2 x 1 lbmol gas/386 scf gas
F-Factor	8,710 dscf/MMBtu	EPA Method 19 Table 19-2 F-Factor for Various Fuels dry F-factor for natural gas
O2 Concentration for Emission Factor Correction	3 %	Vendor data
NOX Heat Input Rate-Based Emission Factor	0.056 lb/MMBtu	= 5.49E-06 lb NO2/dscf x 8,710 dscf/MMBtu x 20.9% / (20.9% - 3%)
NOX Natural Gas Usage Rate-Based Emission Factor	57.77 lb/MMscf	= 0.056 lb NO2/MMBtu x 1,035 MMBtu/MMscf

4.2.5 Additional Emission Factor Tied to Natural Gas Combustion

> PM and VOC emissions are included in the emissions estimate for aluminum processing. All other emission factors are based on reference literature (e.g., EPA's AP-42 or MRR, 40 CFR 98 Subpart C Tables C-1 and C-2).

> The global warming potential factors for CH4 and N2O are those specific in Subpart A.

Global Warming Potentials

GWP for CO2	1	40 CFR 98 Subpart A, Table A-1
GWP for CH4	25	40 CFR 98 Subpart A, Table A-1
GWP for N2O	298	40 CFR 98 Subpart A, Table A-1

Emission Factors

CO2	53.06 kg/MMBtu 121,071 lb/MMscf	40 CFR 98 Subpart C, Table C-1
CH4	1.00E-03 kg/MMBtu 2.28 lb/MMscf	40 CFR 98 Subpart C, Table C-2
N2O	1.00E-04 kg/MMBtu 0.23 lb/MMscf	40 CFR 98 Subpart C, Table C-2
CO2e	121,197 lb/MMscf	= 121,071 lb CO2/MMscf + (2.28 lb CH4/MMscf * 25) + (0.23 lb N2O/MMscf * 298)

4.3 Potential Emission Calculations for Holding Furnace

4.3.1 Potential Emissions Tied to Aluminum Metal Production (Stack)

> Emission factors shown below are the stack emission factors.

Pollutant	Emission Factor (lb/ton)	Emission Factor Basis		Maximum Hourly Process Rate (ton/hr)	Maximum Annual Process Rate (ton/yr)	Potential Emission Rate (lb/hr)	Potential Emission Rate (tpy)
PM	0.013	lb/ton	Similar Source Test	4.20	36,792	0.053	0.23
PM10	0.015	lb/ton	Engineering Estimate	4.20	36,792	0.062	0.27
PM2.5	0.014	lb/ton	Engineering Estimate	4.20	36,792	0.059	0.26
VOC	6.13E-03	lb/ton	Vendor Estimate	4.20	36,792	0.026	0.11

4.3.2 Potential Emissions Tied to Natural Gas Combustion

Pollutant	Emission Factor (lb/MMscf)	Emission Factor Basis		Maximum Hourly Process Rate (MMscf/hr)	Maximum Annual Process Rate (MMscf/yr)	Potential Emission Rate (lb/hr)	Potential Emission Rate (tpy)
NOX	57.77	lb/MMscf	Vendor Estimate	9.47E-03	82.9	0.55	2.40
CO	84.00	lb/MMscf	AP-42 Table 1.4-1	9.47E-03	82.9	0.80	3.48
SO2	0.60	lb/MMscf	AP-42 Table 1.4-2	9.47E-03	82.9	5.68E-03	0.025
CO2	121,071	lb/MMscf	40CFR98 Subpart C, Table C-1	9.47E-03	82.9	1,146	5,021
CH4	2.28	lb/MMscf	40CFR98 Subpart C, Table C-2	9.47E-03	82.9	0.022	0.095
N2O	0.23	lb/MMscf	40CFR98 Subpart C, Table C-2	9.47E-03	82.9	2.16E-03	9.46E-03
CO2e	121,197	lb/MMscf	40CFR98 Subpart A	9.47E-03	82.9	1,148	5,026
Lead	5.00E-04	lb/MMscf	AP-42 Table 1.4-2	9.47E-03	82.9	4.73E-06	2.07E-05
Total HAPs	1.89	lb/MMscf	AP-42 Tables 1.4-3 & 1.4-4	9.47E-03	82.9	0.018	0.078

5. Existing Shredder System- Affected Scrap Processing Operations

> Product shredded scrap from the new Secondary Shredder will have the option of being routed to the cleaning, separation, and sorting operations (i.e., two pass air knife, an Accumulator hopper, cross belt magnet, drum magnet, conveyors, and transfer points) within the existing Shredder System (EU16). The existing Shredder System will not be physically modified as part of the planned project. However, there will be an associated change in actual aluminum process rates and a potential change in the actual emissions from the existing Shredder System caused by the project due the increased amount of shredded scrap available.

5.1 Shredder Scrap Processing Operations Process Rates: Metal Throughput

Maximum Hourly Aluminum Process Rate: 12.04 ton/hr

5.2 Documentation of Emission Factors Used - Aluminum Throughput

5.2.1 Emission Factors for Particulate Matter - Current

Parameter	Value		Basis
Stack Emissions			
Filterable PM Outlet Concentration	0.0022	gr/dscfm	3 run avg. based on 2021 SMACT report
Baghouse Flow Rate	43,404	dscfm	= 43,404 acfm from KyEIS x (77 F + 460) / (72 F + 460)
Baghouse Flow Rate Contribution - Total System Capacity w/ Existing Shredder Operational	100%		Based on ratio of flow excluding shredder contribution from 2022 KBD Technic Shredder Building Evaluation Report
Baghouse Flow Rate - Total System Capacity w/ Existing Shredder Operational	43,404	dscfm	= 43,404 dscfm x 100%
Filt. PM Hourly Emission Factor	0.82	lb/hr	= 0.0022 gr/dscfm x 43,404 dscfm / 7,000 gr/lb x 60 min/hr
Filt. PM Emission Factor	0.068	lb/ton	= 0.82 lb filt. PM/hr / 12.04 ton Al/hr current hammermill maximum hourly throughput
Filt. PM10 to Filt. PM Ratio	0.51	--	EPA's PM Calculator for appropriate SCC
Filt. PM2.5 to Filt. PM Ratio	0.15	--	
Filt. PM10 Emission Factor	0.035	lb/ton	= 0.51 filt. PM10 to filt. PM ratio x 0.068 lb filt. PM/ton Al
Filt. PM2.5 Emission Factor	0.010	lb/ton	= 0.15 filt. PM2.5 to filt. PM ratio x 0.068 lb filt. PM/ton Al

5.2.2 Emission Factors for Particulate Matter - After New Shred Equipment Installation

Parameter	Value		Basis
Stack Emissions			
Filterable PM Outlet Concentration	0.0022	gr/dscfm	3 run avg. based on 2021 SMACT report
Baghouse Flow Rate	43,404	dscfm	= 43,000 acfm from KyEIS x (77 F + 460) / (72 F + 460)
Baghouse Flow Rate Contribution - Scrap Processing Only Contribution	68%		Based on ratio of flow excluding shredder contribution from 2022 KBD Technic Shredder Building Evaluation Report
Baghouse Flow Rate - Scrap Processing Only Contribution	29,419.17	dscfm	= 43,404 dscfm x 68%
Filt. PM Hourly Emission Factor	0.55	lb/hr	= 0.0022 gr/dscfm x 29,419 dscfm / 7,000 gr/lb x 60 min/hr
Filt. PM Emission Factor	0.029	lb/ton	= 5.55E-01 lb filt. PM/hr / 19.00 ton Al/hr Secondary Shredder maximum houlry throughput
Filt. PM10 to Filt. PM Ratio	0.51	--	EPA's PM Calculator for appropriate SCC
Filt. PM2.5 to Filt. PM Ratio	0.15	--	
Filt. PM 10 Emission Factor	0.015	lb/ton	= 0.51 filt. PM10 to filt. PM ratio x 0.029 lb filt. PM/ton Al
Filt. PM2.5 Emission Factor	4.38E-03	lb/ton	= 0.15 filt. PM2.5 to filt. PM ratio x 0.029 lb filt. PM/ton Al

5.3 Baseline Actual Emission Calculations for Shredder Scrap Processing Operations

> Refer to Section 4.3.1 of application narrative for baseline period selection.

Baseline Period Selected for Project: Jan-2021 to Dec-2022

Aluminum processing rate: 51,008 ton/yr

Pollutant	Emission Factor	Baseline Actual Emissions (tpy)
PM	0.068 lb/ton	1.73
PM10	0.035 lb/ton	0.88
PM2.5	0.010 lb/ton	0.26

5.4 Summary of Shredder Scrap Processing Operations Projected Actual Emissions

> Real Alloy had forecast future production rates from each affected process unit that will be achieved based on process simulation output modeling results from Real Alloy's internal models. These forecasts are used to calculate the future projected actual emissions from the Scrap Processing Operations.

Future projected throughput (after project implementation):

Aluminum processing rate: 77,500 ton/yr

Pollutant	Emission Factor	Projected Actual Emissions (tpy)
PM	0.029 lb/ton	1.13
PM10	0.015 lb/ton	0.58
PM2.5	4.38E-03 lb/ton	0.17

5.5 Summary of Shredder Scrap Processing Operations "Could Have Accommodated" Emissions

> To evaluate the "could have accommodated (CHA)" adjustment to the projected actual emission calculations, the maximum annual 3-month rolling Shredder Scrap Processing Operations input within the baseline period was used to correlate with historically high production periods. It is reasonable to expect the maximum 3-month production rate to be achieved on an annual basis at some point in the next 5 years even if the proposed project were not implemented.

Future projected throughput (if project is not completed):

Aluminum processing rate: 59,904 ton/yr

Pollutant	Emission Factor	"Could Have Accom." Emissions (tpy)
PM	0.068 lb/ton	2.04
PM10	0.035 lb/ton	1.04
PM2.5	0.010 lb/ton	0.31

Pollutant	"Could Have Accom." Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Unrelated to the Project (tpy)
PM	2.04	1.73	0.30
PM10	1.04	0.88	0.15
PM2.5	0.31	0.26	0.05

5.6 Project Emission Increases for Shredder Scrap Processing Operations

> In accordance with 401 KAR 51:017 Section 1(4)(a) and (b), the emissions increase for an existing emission unit is the difference between the projected actual emissions (excluding emissions that could have been accommodated and are unrelated to the project) and the baseline actual emissions. For Shredder Scrap Processing Operations, these emissions increases are shown in the table below.

5.6.1 Shredder Scrap Processing Operations Project Emissions Increase

Pollutant	Projected Actual Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Without Adjustments (tpy)	Emissions Increases Unrelated to the Project (tpy)	Emissions Increases With Adjustments (tpy)
PM	1.13	1.73	-0.60	0.30	-0.60
PM10	0.58	0.88	-0.31	0.15	-0.31
PM2.5	0.17	0.26	-0.090	0.045	-0.090

6. Rotary Furnace #5

> Rotary Furnace #5 (EU 04) will have a burner replacement which will affect the potential natural gas combustion emissions in addition to the associated change in actual aluminum process rates. A door will also be added to Rotary Furnace #5 as part of this project. Both actual and potential emissions increases from Rotary Furnace #5 will be caused by the proposed modifications.

6.1 Rotary Furnace 5 Process Rates: Metal Throughput and Gas Firing Rate

Maximum Hourly Aluminum Process Rate:	4.2	ton/hr	
Rated Burner Capacity:	16.0	MMBtu/hr	
Natural Gas Heating Value:	1,035	Btu/scf	Site-specific natural gas HHV
Maximum Hourly Natural Gas Usage Rate:	0.015	MMscf/hr	16.0 MMBtu/hr / 1,035 Btu/scf = 0.015 MMscf/hr
Maximum Annual Natural Gas Usage Rate:	135.42	MMscf/yr	0.015 MMscf/hr x 8,760 hr/yr = 135.42 MMscf/yr

6.2 Documentation of Emission Factors Used - Aluminum Throughput

6.2.1 Emission Factors for Particulate Matter

Parameter	Value		Basis
Stack Emissions			
Filt. PM Emission Factor	0.11	lb/ton	3 run avg. from Sept. 2021 SMACT test - based on Litho Sheet
Filt. PM10 to Filt. PM Ratio	0.60		Maximum ratios from MVA Reports for Nov. 2023 compliance testing on RF8 and RF9 as similar rotary furnace with expected similarities in filt. PM10/PM2.5 emissions ratios
Filt. PM2.5 to Filt. PM Ratio	0.093		
Filt. PM 10 Emission Factor	0.065	lb/ton	= 0.60 filt. PM10 to filt. PM ratio x 0.11 lb filt. PM/ton Al
Filt. PM2.5 Emission Factor	0.010	lb/ton	= 0.093 filt. PM2.5 to filt. PM ratio x 0.11 lb filt. PM/ton Al
Condensable PM Emission Factor	0.22	lb/ton	Maximum result from 3-run avg. of Nov. 2023 compliance testing on RF8 and RF9 as similar rotary furnace with expected similarities in condensable PM emissions profile
Total PM10 Emission Factor	0.28	lb/ton	= 0.065 lb filt. PM10/ton Al + 0.22 lb cond. PM/ton Al
Total PM2.5 Emission Factor	0.23	lb/ton	= 0.010 lb filt. PM2.5/ton Al + 0.22 lb cond. PM/ton Al

6.2.2 NOX, CO, and VOC Emission Factor Derivation

NOX and CO Emission Factor - Current

NOX Emission Factor	0.30	lb/ton	3 run avg of 2006 Goodyear AZ comp. test incl. nat gas contribution
CO Emission Factor	3.75	lb/ton	Maximum 3 run avg. from Nov. 2023 compliance testing of RF8 and RF9 as similar rotary furnace with expected similarities in CO emissions profile

NOx and CO Emission Factor - After Burner Upgrade

Parameter	Value		Basis
NOX Exhaust Concentration	130	ppmv	Vendor estimate
NO2 Molecular Weight	46	lb/lbmol	Consistent with Method 19, assume all NOX is NO2
Molar Volume Conversion Factor	386	scf/lbmol	Ideal gas law at 68 deg. F and 1 atm
NOX Exhaust Concentration	1.55E-05	lb NOX/dscf	= 130 lbmol NOX/1E6 lbmol gas x 46 lb NO2/1 lbmol NO2 x 1 lbmol gas/386 scf
F-Factor	8,710	dscf/MMBtu	EPA Method 19 Table 19-2 F-Factor for Various Fuels dry F-factor for natural gas
O2 Concentration for Emission Factor Correction	3	%	Vendor data
NOX Heat Input Rate-Based Emission Factor	0.16	lb/MMBtu	= 1.55E-05 lb NO2/dscf x 8,710 dscf/MMBtu x 20.9% / (20.9% - 3%)
NOX Natural Gas Usage Rate-Based Emission Factor	163.25	lb/MMscf	= 0.16 lb NO2/MMBtu x 1,035 MMBtu/MMscf
NOX Natural Gas Usage Rate Based Emission Factor Increase from Burner Replacement	0.32	lb/hr	=163.25 lb/MMscf x (0.015 MMscf/hr new burner rating - 0.014 MMscf/hr current burner rating)
NOX Aluminum Process Rate Emission Factor Increase	0.075	lb/ton	= 0.32 lb NOX/hr / 4.2 ton Al/hr
New NOX Aluminum Process Rate Emission Factor	0.38	lb/ton	= 0.30 lb NOX/ton Al current emission factor + 0.075 lb NOX/ton Al increase from new burners

Parameter	Value		Basis
CO Exhaust Concentration	70	ppmv	Vendor estimate
CO Molecular Weight	28	lb/lbmol	Consistent with Method 19, assume all NOX is NO2
Molar Volume Conversion Factor	386	scf/lbmol	Ideal gas law at 68 deg. F and 1 atm
CO Exhaust Concentration	5.08E-06	lb NOX/dscf	= 70 lbmol CO/1E6 lbmol gas x 28 lb CO/1 lbmol CO x 1 lbmol gas/386 scf gas
F-Factor	8,710	dscf/MMBtu	EPA Method 19 Table 19-2 F-Factor for Various Fuels dry F-factor for natural gas
O2 Concentration for Emission Factor Correction	3	%	Vendor data
CO Heat Input Rate-Based Emission Factor	0.052	lb/MMBtu	= 5.08E-06 lb CO/dscf x 8,710 dscf/MMBtu x 20.9% / (20.9% - 3%)
CO Natural Gas Usage Rate-Based Emission Factor	53.51	lb/MMscf	= 0.052 lb CO/MMBtu x 1,035 MMBtu/MMscf
CO Natural Gas Usage Rate Based Emission Factor Increase from Burner Replacement	0.10	lb/hr	=53.51 lb/MMscf x (0.015 MMscf/hr new burner rating - 0.014 MMscf/hr current burner rating)
CO Aluminum Process Rate Emission Factor Increase	0.025	lb/ton	= 0.10 lb CO/hr / 4.2 ton Al/hr
New CO Aluminum Process Rate Emission Factor	3.77	lb/ton	= 3.75 lb CO/ton Al current emission factor + 0.025 lb CO/ton Al increase from new burners

Parameter	Value		Basis
VOC Emission Factor	1.20	lb/ton	Maximum 3 run avg. from Nov. 2023 compliance testing of RF8 and RF9 as similar rotary furnace with expected similarities in VOC emissions profile

6.2.3 Emission Factors for HCl and D/F

Parameter	Value	Basis
HCl Emission Factor	0.12 lb/ton	3 run avg. from Sept. 2021 SMACT test - based on Dross
D/F Emission Factor	1.09E-09 lb/ton	3 run avg. from Sept. 2021 SMACT test - based on Litho Sheet

6.3 Documentation of Emission Factors Used - Natural Gas Process Rate

6.3.1 Emission Factor for SO2

Parameter	Value	Basis
SO2 Emission Factor	0.60 lb/MMscf	AP 42 Table 1.4-2

6.3.2 Emission Factors for GHG

Parameter	Value	Basis
CO2e Emission Factor	121,197 lb/MMscf	= CO2 EF x CO2 GWP + CH4 EF x CH4 GWP + N2O EF x N2O GWP
CH4 Emission Factor	2.28 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 CH4 emission factor for natural gas combustion (1.00E-3 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu) multiplied by the vendor CO2 emissions estimate to account for contribution to GHG emissions from contaminant burn-off.
N2O Emission Factor	0.23 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 N2O emission factor for natural gas combustion (1.00E-4 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu) multiplied by the vendor CO2 emissions estimate to account for contribution to GHG emissions from contaminant burn-off.

6.4 Baseline Actual Emission Calculations for Rotary Furnace 5

> Refer to Section 4.3.1 of application narrative for baseline period selection.

Baseline Period Selected for Project: Jan-2021 to Dec-2022
Aluminum processing rate: 20,464 ton/yr
Natural gas usage rate: 64 MMscf/yr

Pollutant	Emission Factor	Baseline Actual Emissions (tpy)
PM	0.11 lb/ton	1.10
PM10	0.28 lb/ton	2.91
PM2.5	0.23 lb/ton	2.35
NOX	0.30 lb/ton	3.07
CO	3.75 lb/ton	38.37
VOC	1.20 lb/ton	12.28
SO2	0.60 lb/MMscf	0.019
CH4	2.28 lb/MMscf	0.073
N2O	0.23 lb/MMscf	7.27E-03
CO2e	121,197 lb/MMscf	3,863

6.5 Summary of Rotary Furnace 5 Projected Actual Emissions

> Real Alloy has forecast future production rates from Rotary Furnace #5 that will be realized with the full implementation of the project using the same process models referenced in the Scrap Processing Operations calculations.

Future projected throughput (after project implementation):

Aluminum processing rate:	30,000	ton/yr	
Natural gas usage rate:	93.45	MMscf/yr	=64 MMscf/yr in baseline / 20,464 ton Al/yr in baseline x 30,000 ton Al/yr projected

Pollutant	Emission Factor	Projected Actual Emissions (tpy)
PM	0.11 lb/ton	1.61
PM10	0.28 lb/ton	4.27
PM2.5	0.23 lb/ton	3.45
NOX	0.38 lb/ton	5.63
CO	3.77 lb/ton	56.62
VOC	1.20 lb/ton	18.00
SO2	0.60 lb/MMscf	0.028
CH4	2.28 lb/MMscf	0.11
N2O	0.23 lb/MMscf	0.011
CO2e	121,197 lb/MMscf	5,663

6.6 Summary of Rotary Furnace 5 "Could Have Accommodated" Emissions

> To evaluate the "could have accommodated (CHA)" adjustment to the projected actual emission calculations, the maximum annual 3-month rolling Rotary Furnace 5 input within the baseline period was used to correlate with historically high production periods. It is reasonable to expect the maximum 3-month production rate to be achieved on an annual basis at some point in the next 5 years even if the proposed project were not implemented.

Future projected throughput (if project is not completed):

Aluminum processing rate:	22,578	ton/yr	
Natural gas usage rate:	70.33	MMscf/yr	=64 MMscf/yr in baseline / 20,464 ton Al/yr in baseline x 22,578 ton Al/yr

Pollutant	Emission Factor	"Could Have Accom." Emissions (tpy)
PM	0.11 lb/ton	1.21
PM10	0.28 lb/ton	3.21
PM2.5	0.23 lb/ton	2.60
NOX	0.30 lb/ton	3.39
CO	3.75 lb/ton	42.33
VOC	1.20 lb/ton	13.55
SO2	0.60 lb/MMscf	0.021
CH4	2.28 lb/MMscf	0.080
N2O	0.23 lb/MMscf	8.02E-03
CO2e	121,197 lb/MMscf	4,262

Pollutant	"Could Have Accom." Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Unrelated to the Project (tpy)
PM	1.21	1.10	0.11
PM10	3.21	2.91	0.30
PM2.5	2.60	2.35	0.24
NOX	3.39	3.07	0.32
CO	42.33	38.37	3.96
VOC	13.55	12.28	1.27
SO2	0.021	0.019	1.98E-03
CH4	0.080	0.073	7.52E-03
N2O	8.02E-03	7.27E-03	7.52E-04
CO2e	4,262	3,863	399

6.7 Project Emission Increases for Rotary Furnace 5

> In accordance with 401 KAR 51:017 Section 1(4)(a) and (b), the emissions increase for an existing emission unit is the difference between the projected actual emissions (excluding emissions that could have been accommodated and are unrelated to the project) and the baseline actual emissions. For Rotary Furnace 5, these emissions increases are shown in the table below.

6.7.1 Rotary Furnace 5 Project Emissions Increase

Pollutant	Projected Actual Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Without Adjustments (tpy)	Emissions Increases Unrelated to the Project (tpy)	Emissions Increases With Adjustments (tpy)
PM	1.61	1.10	0.51	0.11	0.40
PM10	4.27	2.91	1.36	0.30	1.06
PM2.5	3.45	2.35	1.10	0.24	0.85
NOX	5.63	3.07	2.56	0.32	2.24
CO	56.62	38.37	18.25	3.96	14.28
VOC	18.00	12.28	5.72	1.27	4.45
SO2	0.028	0.019	8.91E-03	1.98E-03	6.94E-03
CH4	0.11	0.073	0.034	7.52E-03	0.026
N2O	0.011	7.27E-03	3.39E-03	7.52E-04	2.64E-03
CO2e	5,663	3,863	1,800	399	1,401

7. Rotary Furnace #8

> Rotary Furnace #8 (EU 13) is planned to be physically modified to increase the available "tilt" of the furnace which effectively increases the metal holding capacity of the furnace but will not increase its maximum hourly aluminum process rate relative to the current permit basis. However, there will be an associated change in actual aluminum process rates and an actual emissions increase from Rotary Furnace #8 caused by the project due to the larger tilt angle and operating flexibility of transferring molten metal to the Reverberatory Furnace.

7.1 Rotary Furnace 8 Process Rates: Aluminum and Natural Gas Process Rates

Maximum Hourly Aluminum Process Rate:	8.22	ton/hr	
Rated Burner Capacity:	24.0	MMBtu/hr	
Natural Gas Heating Value:	1,035	Btu/scf	Site-specific natural gas HHV
Maximum Hourly Natural Gas Usage Rate:	0.023	MMscf/hr	24.0 MMBtu/hr / 1,035 Btu/scf = 0.023 MMscf/hr
Maximum Annual Natural Gas Usage Rate:	203.13	MMscf/yr	0.023 MMscf/hr x 8,760 hr/yr = 203.13 MMscf/yr

7.2 Documentation of Emission Factors Used - Dross, Concentrate, and Salt Cake Throughput

7.2.1 Emission Factors for Particulate Matter

Parameter	Value	Basis
Stack Emissions		
Filt. PM Emission Factor	0.12 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Total PM10 Emission Factor	0.27 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Total PM2.5 Emission Factor	0.23 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Uncaptured Emissions		
Control Efficiency	98.01%	From KyEIS
Capture Efficiency	99%	Engineering estimate based on Rotary 8 capture and collection system design features
Filt. PM Emission Factor	0.061 lb/ton	= (0.12 lb filt. PM/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
PM10 Emission Factor	0.14 lb/ton	= (0.27 lb PM10/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
PM2.5 Emission Factor	0.12 lb/ton	= (0.23 lb PM2.5/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)

7.2.2 NOX, CO, and VOC Emission Factor Derivation

Parameter	Value	Basis
Stack Emissions		
NOX Emission Factor	0.30 lb/ton	3 run avg of April 2006 Goodyear AZ comp. test incl. nat gas contribution
CO Emission Factor	1.40 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
VOC Emission Factor	1.20 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Uncaptured Emissions		
NOX Emission Factor	3.03E-03 lb/ton	= 0.30 lb NOx/ton Al / 99% capture eff. x (100 - 99% capture eff.)
CO Emission Factor	0.014 lb/ton	= 1.40 lb CO/ton Al / 99% capture eff. x (100 - 99% capture eff.)
VOC Emission Factor	0.012 lb/ton	= 1.20 lb VOC/ton Al / 99% capture eff. x (100 - 99% capture eff.)

7.2.4 Emission Factors for HCl and D/F

Parameter	Value	Basis
Stack Emissions		
HCl Emission Factor	0.041 lb/ton	3 run avg of August 2021 SMACT test
D/F Emission Factor	1.18E-09 lb/ton	3 run avg of August 2021 SMACT test

Uncaptured Emissions		
HCl Emission Factor	0.021 lb/ton	= (0.041 lb HCl/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
D/F Emission Factor	1.19E-11 lb/ton	= 1.18E-09 lb D/F /ton Al / 99% capture eff. x (100 - 99% capture eff.)

7.3 Documentation of Emission Factors Used - All Other Charge

7.3.1 Emission Factors for Particulate Matter

Parameter	Value	Basis
Stack Emissions		
Filt. PM Emission Factor	0.12 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
PM10 Emission Factor	0.086 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
PM2.5 Emission Factor	0.036 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Uncaptured Emissions		
Filt. PM Emission Factor	0.061 lb/ton	= (0.12 lb filt. PM/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
PM10 Emission Factor	0.044 lb/ton	= (0.086 lb PM10/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
PM2.5 Emission Factor	0.018 lb/ton	= (0.036 lb PM2.5/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)

7.3.3 NOX, CO, and VOC Emission Factor Derivation

Parameter	Value	Basis
Stack Emissions		
NOX Emission Factor	0.30 lb/ton	3 run avg of April 2006 Goodyear AZ comp. test incl. nat gas contribution
CO Emission Factor	3.75 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
VOC Emission Factor	1.20 lb/ton	3 run avg from Nov. 2023 compliance test on RF8
Uncaptured Emissions		
NOX Emission Factor	3.03E-03 lb/ton	= 0.30 lb NOx/ton Al / 99% capture eff. x (100 - 99% capture eff.)
CO Emission Factor	0.038 lb/ton	= 3.75 lb CO/ton Al / 99% capture eff. x (100 - 99% capture eff.)
VOC Emission Factor	0.012 lb/ton	= 1.20 lb VOC/ton Al / 99% capture eff. x (100 - 99% capture eff.)

7.3.4 Emission Factors for HCl and D/F

Parameter	Value	Basis
Stack Emissions		
HCl Emission Factor	0.041 lb/ton	Same as dross, concentrate, and salt cake throughput
D/F Emission Factor	1.18E-09 lb/ton	Same as dross, concentrate, and salt cake throughput
Uncaptured Emissions		
HCl Emission Factor	0.021 lb/ton	= (0.041 lb HCl/ton Al / (100 - 98.01% control eff.)) / 99% capture eff. x (100 - 99% capture eff.)
D/F Emission Factor	1.19E-11 lb/ton	= 1.18E-09 lb D/F /ton Al / 99% capture eff. x (100 - 99% capture eff.)

7.4 Documentation of Emission Factors Used - Natural Gas Process Rate

7.4.1 Emission Factor for SO2

Parameter	Value	Basis
SO2 Emission Factor	0.60 lb/MMscf	AP 42 Table 1.4-2

7.4.1 Emission Factors for GHG

Parameter	Value	Basis
CO2e Emission Factor	121,197 lb/MMscf	= CO2 EF x CO2 GWP + CH4 EF x CH4 GWP + N2O EF x N2O GWP
CH4 Emission Factor	2.28 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 CH4 emission factor for natural gas combustion (1.00E-3 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu)
N2O Emission Factor	0.23 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 N2O emission factor for natural gas combustion (1.00E-4 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu)

7.5 Baseline Actual Emission Calculations for Rotary Furnace 8 Furnace

> Refer to Section 4.3.1 of application narrative for baseline period selection.

7.5.1 Rotary Furnace 8 Baseline Actual Emissions - Dross, Concentrate, and Salt Cake

Baseline Period Selected for Project: Jan-2021 to Dec-2022
Aluminum processing rate: 6,761 ton/yr
Natural gas usage rate: 145 MMscf/yr

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	Baseline Actual Stack Emissions (tpy)	Baseline Actual Uncaptured Emissions (tpy)	Total Baseline Actual Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	0.41	0.21	0.61
PM10	0.27 lb/ton	0.14 lb/ton	0.91	0.46	1.38
PM2.5	0.23 lb/ton	0.12 lb/ton	0.78	0.39	1.17
NOX	0.30 lb/ton	3.03E-03 lb/ton	1.01	0.010	1.02
CO	1.40 lb/ton	0.014 lb/ton	4.73	0.048	4.78
VOC	1.20 lb/ton	0.012 lb/ton	4.06	0.041	4.10
SO2	0.60 lb/MMscf	-- lb/MMscf	0.044	--	0.044
CH4	2.28 lb/MMscf	-- lb/MMscf	0.17	--	0.17
N2O	0.23 lb/MMscf	-- lb/MMscf	0.017	--	0.017
CO2e	121,197 lb/MMscf	-- lb/MMscf	8,816	--	8,816

7.5.2 Rotary Furnace 8 Baseline Actual Emissions - All Other Charge

Baseline Period Selected for Project: Jan-2021 to Dec-2022
Aluminum processing rate: 31,805 ton/yr

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	Baseline Actual Stack Emissions (tpy)	Baseline Actual Uncaptured Emissions (tpy)	Total Baseline Actual Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	1.91	0.97	2.88
PM10	0.086 lb/ton	0.044 lb/ton	1.37	0.69	2.06
PM2.5	0.036 lb/ton	0.018 lb/ton	0.57	0.29	0.86
NOX	0.30 lb/ton	3.03E-03 lb/ton	4.77	0.048	4.82
CO	3.75 lb/ton	0.014 lb/ton	59.63	0.22	59.86
VOC	1.20 lb/ton	0.012 lb/ton	19.08	0.19	19.28

7.6 Summary of Rotary Furnace 8 Furnace Projected Actual Emissions

> Real Alloy has forecast future production rates from Rotary Furnace #8 that will be realized with the full implementation of the project using the same process models referenced in the Scrap Processing Operations calculations.

7.6.1 Rotary Furnace 8 Projected Actual Emissions - Dross, Concentrate, and Salt Cake

Future projected throughput (after project implementation):

Aluminum processing rate: 9,677 ton/yr

Natural gas usage rate: 208.24 MMscf/yr =145 MMscf/yr in baseline / 38,566 ton scrap and dross/yr in baseline x 55,200 ton scrap and dross/yr projected

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	Projected Actual Stack Emissions (tpy)	Projected Actual Uncaptured Emissions (tpy)	Total Projected Actual Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	0.58	0.29	0.88
PM10	0.27 lb/ton	0.14 lb/ton	1.31	0.66	1.97
PM2.5	0.23 lb/ton	0.12 lb/ton	1.11	0.56	1.68
NOX	0.30 lb/ton	3.03E-03 lb/ton	1.45	0.015	1.47
CO	1.40 lb/ton	0.014 lb/ton	6.77	0.068	6.84
VOC	1.20 lb/ton	0.012 lb/ton	5.81	0.059	5.86
SO2	0.60 lb/MMscf	-- lb/MMscf	0.062	--	0.062
CH4	2.28 lb/MMscf	-- lb/MMscf	0.24	--	0.24
N2O	0.23 lb/MMscf	-- lb/MMscf	0.024	--	0.024
CO2e	121,197 lb/MMscf	-- lb/MMscf	12,619	--	12,619

7.6.2 Rotary Furnace 8 Projected Actual Emissions - All Other Charge

Future projected throughput (after project implementation):

Aluminum processing rate: 45,523 ton/yr

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	Projected Actual Stack Emissions (tpy)	Projected Actual Uncaptured Emissions (tpy)	Total Projected Actual Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	2.73	1.39	4.12
PM10	0.086 lb/ton	0.044 lb/ton	1.96	0.99	2.95
PM2.5	0.036 lb/ton	0.018 lb/ton	0.82	0.42	1.24
NOX	0.30 lb/ton	3.03E-03 lb/ton	6.83	0.069	6.90
CO	3.75 lb/ton	0.014 lb/ton	85.36	0.32	85.68
VOC	1.20 lb/ton	0.012 lb/ton	27.31	0.28	27.59

7.7 Summary of Rotary Furnace 8 "Could Have Accommodated" Emissions

> To evaluate the "could have accommodated (CHA)" adjustment to the projected actual emission calculations, the maximum annual 3-month rolling Rotary Furnace 8 input within the baseline period was used to correlate with historically high production periods. It is reasonable to expect the maximum 3-month production rate to be achieved on an annual basis at some point in the next 5 years even if the proposed project were not implemented.

7.7.1 Rotary Furnace 8 "Could Have Accommodated" Emissions - Dross, Concentrate, and Salt Cake

Future projected process rates (if project is not completed):

Aluminum processing rate: 12,236 ton/yr

Natural gas usage rate: 189.89 MMscf/yr =145 MMscf/yr in baseline / 38,566 ton scrap and dross/yr in baseline x 50,336 ton scrap and dross/yr

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	"Could Have Accom." Stack Emissions (tpy)	"Could Have Accom." Uncaptured Emissions (tpy)	Total "Could Have Accom." Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	0.73	0.37	1.11
PM10	0.27 lb/ton	0.14 lb/ton	1.65	0.84	2.49
PM2.5	0.23 lb/ton	0.12 lb/ton	1.41	0.71	2.12
NOX	0.30 lb/ton	3.03E-03 lb/ton	1.84	0.019	1.85
CO	1.40 lb/ton	0.014 lb/ton	8.57	0.087	8.65
VOC	1.200 lb/ton	0.012 lb/ton	7.34	0.074	7.42
SO2	0.60 lb/MMscf	-- lb/MMscf	0.057	--	0.057
CH4	2.28 lb/MMscf	-- lb/MMscf	0.22	--	0.22
N2O	0.23 lb/MMscf	-- lb/MMscf	0.022	--	0.022
CO2e	121,197 lb/MMscf	-- lb/MMscf	11,507	--	11,507

Pollutant	"Could Have Accom." Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Unrelated to the Project (tpy)
PM	1.11	0.61	0.50
PM10	2.49	1.38	1.11
PM2.5	2.12	1.17	0.95
NOX	1.85	1.02	0.83
CO	8.65	4.78	3.87
VOC	7.42	4.10	3.32
SO2	0.057	0.044	0.013
CH4	0.22	0.17	0.051
N2O	0.022	0.017	5.07E-03
CO2e	11,507	8,816	2,691

7.7.2 Rotary Furnace 8 "Could Have Accommodated" Emissions - All Other Charge

Future projected process rate (if project is not completed):

Aluminum processing rate: 38,100 ton/yr

Pollutant	Stack Emission Factor	Uncaptured Emission Factor	"Could Have Accom." Stack Emissions (tpy)	"Could Have Accom." Uncaptured Emissions (tpy)	Total "Could Have Accom." Emissions (tpy)
PM	0.12 lb/ton	0.061 lb/ton	2.29	1.16	3.45
PM10	0.086 lb/ton	0.044 lb/ton	1.64	0.83	2.47
PM2.5	0.036 lb/ton	0.018 lb/ton	0.69	0.35	1.03
NOX	0.30 lb/ton	3.03E-03 lb/ton	5.72	0.058	5.77
CO	3.75 lb/ton	0.014 lb/ton	71.44	0.27	71.71
VOC	1.20 lb/ton	1.21E-02 lb/ton	22.86	2.31E-01	23.09

Pollutant	"Could Have Accom." Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Unrelated to the Project (tpy)
PM	3.45	2.88	0.57
PM10	2.47	2.06	0.41
PM2.5	1.03	0.86	0.17
NOX	5.77	4.82	0.95
CO	71.71	59.86	11.85
VOC	23.09	19.28	3.82

7.8 Project Emission Increases for Rotary Furnace 8

> In accordance with 401 KAR 51:017 Section 1(4)(a) and (b), the emissions increase for an existing emission unit is the difference between the projected actual emissions (excluding emissions that could have been accommodated and are unrelated to the project) and the baseline actual emissions. For Rotary Furnace 8, these emissions increases are shown in the table below.

7.8.1 Rotary Furnace 8 Project Emissions Increase - Dross, Concentrate, and Salt Cake

Pollutant	Projected Actual Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Without Adjustments (tpy)	Emissions Increases Unrelated to the Project (tpy)	Emissions Increases With Adjustments (tpy)
PM	0.88	0.61	0.26	0.50	-0.23
PM10	1.97	1.38	0.59	1.11	-0.52
PM2.5	1.68	1.17	0.51	0.949	-0.44
NOX	1.47	1.02	0.44	0.83	-0.39
CO	6.84	4.78	2.06	3.87	-1.81
VOC	5.86	4.10	1.767	3.318	-1.55
SO2	0.062	0.044	0.019	0.013	5.50E-03
CH4	0.24	0.17	0.072	0.051	0.021
N2O	0.024	0.017	7.16E-03	5.07E-03	2.09E-03
CO2e	12,619	8,816	3,803	2,691	1,112

7.8.2 Rotary Furnace 8 Project Emissions Increase - All Other Charge

Pollutant	Projected Actual Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Without Adjustments (tpy)	Emissions Increases Unrelated to the Project (tpy)	Emissions Increases With Adjustments (tpy)
PM	4.12	2.88	1.24	0.57	0.67
PM10	2.95	2.06	0.89	0.41	0.48
PM2.5	1.24	0.86	0.37	0.17	0.20
NOX	6.90	4.82	2.08	0.95	1.12
CO	85.68	59.86	25.82	11.85	13.97
VOC	27.59	19.28	8.31	3.82	4.50

8. Reverberatory Furnace

> The Reverberatory Furnace (EU 03) will not be physically modified as part of the planned project. However, there will be an associated change in actual aluminum process rates and an actual emissions increase from the Reverberatory Furnace caused by the project due to the planned transfer of molten metal from Rotary Furnace #8.

8.1 Reverberatory Process Rates: Process Rates

Maximum Hourly Aluminum Process Rate:	12.5	ton/hr	
Rated Burner Capacity:	38.0	MMBtu/hr	
Natural Gas Heating Value:	1,035	Btu/scf	Site-specific natural gas HHV
Maximum Hourly Natural Gas Usage Rate:	0.037	MMscf/hr	38.0 MMBtu/hr / 1,035 Btu/scf = 0.037 MMscf/hr
Maximum Annual Natural Gas Usage Rate:	321.62	MMscf/yr	0.037 MMscf/hr x 8,760 hr/yr = 321.62 MMscf/yr

8.2 Documentation of Emission Factors Used - Aluminum Throughput

8.2.1 Emission Factors for Particulate Matter

Parameter	Value		Basis
Stack Emissions			
Filt. PM Emission Factor	0.16	lb/ton	3 run avg from April 2019 SMACT test
Ratio of Filt. PM>10 to Filt. PM	0.15		Particulate Matter Study at Three Representative Sources at Aluminum Recycling and Rolling Facilities, January 19, 2009, "Box-Type Furnace Stack", TRC Report prepared for Aluminum Association.
Ratio of Filt. PM10-2.5 to Filt. PM	0.067		
Ratio of Filt. PM2.5 to Filt. PM	0.79		
Filt. PM to Total PM Ratio	0.75		
Ratio of Cond. PM to Total PM	0.25		
Filt. PM10 to Filt. PM Ratio	0.85		
Filt. PM2.5 to Filt. PM Ratio	0.79		
Filt. PM 10 Emission Factor	0.14	lb/ton	= 0.85 filt. PM10 to filt. PM ratio x 0.16 lb filt. PM/ton Al
Filt. PM 2.5 Emission Factor	0.13	lb/ton	= 0.79 filt. PM2.5 to filt. PM ratio x 0.16 lb filt. PM/ton Al
Condensable PM Emission Factor	0.040	lb/ton	= 0.25 filt. PM2.5 to filt. PM ratio x 0.16 lb filt. PM/ton Al
PM10 Emission Factor	0.18	lb/ton	= 0.14 lb filt. PM10/ton Al + 0.040 lb cond. PM/ton Al
PM2.5 Emission Factor	0.17	lb/ton	= 0.13 lb filt. PM2.5/ton Al + 0.040 lb cond. PM/ton Al

8.2.2 NOX and VOC Emission Factor Derivation

Parameter	Value		Basis
NOX Emission Factor	0.21	lb/ton	Similar unit test data from Real Alloy, Coldwater, MI facility
VOC Emission Factor	0.030	lb/ton	Similar unit test data from Real Alloy, Coldwater, MI facility

8.2.3 Emission Factors for HCl and D/F

Parameter	Value		Basis
HCl Emission Factor	0.030	lb/ton	3 run avg from April 2019 SMACT test
D/F Emission Factor	2.15E-09	lb/ton	3 run avg from April 2019 SMACT test

8.2 Documentation of Emission Factors Used - Natural Gas Process Rate

8.2.3 Emission Factors for SO2 and CO

Parameter	Value	Basis
SO2 Emission Factor	0.60 lb/MMscf	AP 42 Table 1.4-2
CO Emission Factor	84 lb/MMscf	AP 42 Table 1.4-1

8.2.3 Emission Factors for GHG

Parameter	Value	Basis
CO2e Emission Factor	121,197 lb/MMscf	= CO2 EF x CO2 GWP + CH4 EF x CH4 GWP + N2O EF x N2O GWP
CH4 Emission Factor	2.28 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 CH4 emission factor for natural gas combustion (1.00E-3 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu) multiplied by the vendor CO2 emissions estimate to account for contribution to GHG emissions from contaminant burn-off.
N2O Emission Factor	0.23 lb/MMscf	Ratio of 40 CFR 98, Subpart C, Table C-2 N2O emission factor for natural gas combustion (1.00E-4 kg/MMBtu) to the 40 CFR 98, Subpart C, Table C-1 CO2 emission factor for natural gas combustion (53.06 kg/MMBtu) multiplied by the vendor CO2 emissions estimate to account for contribution to GHG emissions from contaminant burn-off.

8.3 Baseline Actual Emission Calculations for Reverberatory Furnace

> Refer to Section 4.3.1 of application narrative for baseline period selection.

Baseline Period Selected for Project: Jan-2021 to Dec-2022

Aluminum processing rate: 44,875 ton/yr

Natural gas usage rate: 271 MMscf/yr

Pollutant	Emission Factor	Baseline Actual Emissions (tpy)
PM	0.16 lb/ton	3.59
PM10	0.18 lb/ton	3.96
PM2.5	0.17 lb/ton	3.72
NOX	0.21 lb/ton	4.71
CO	84.00 lb/MMscf	11.40
VOC	0.030 lb/ton	0.67
SO2	0.60 lb/MMscf	0.081
CH4	2.28 lb/MMscf	0.31
N2O	0.23 lb/MMscf	0.031
CO2e	121,197 lb/MMscf	16,451

8.4 Summary of Reverberatory Furnace Projected Actual Emissions

> Real Alloy has forecast future production rates from the Reverberatory Furnace that will be realized with the full implementation of the project using the same process models referenced in the Scrap Processing Operations calculations.

Future projected throughput (after project implementation):

Aluminum processing rate:	76,000	ton/yr	
Natural gas usage rate:	459.77	MMscf/yr	=271 MMscf/yr in baseline / 44,875 ton Al/yr in baseline x 76,000 ton Al/yr projected

Pollutant	Emission Factor	Projected Actual Emissions (tpy)
PM	0.16 lb/ton	6.08
PM10	0.18 lb/ton	6.71
PM2.5	0.17 lb/ton	6.30
NOX	0.21 lb/ton	7.98
CO	84.00 lb/MMscf	19.31
VOC	0.030 lb/ton	1.14
SO2	0.60 lb/MMscf	0.14
CH4	2.28 lb/MMscf	0.52
N2O	0.23 lb/MMscf	0.052
CO2e	121,197 lb/MMscf	27,861

8.5 Summary of Reverberatory Furnace "Could Have Accommodated" Emissions

> To evaluate the "could have accommodated (CHA)" adjustment to the projected actual emission calculations, the maximum annual 3-month rolling Reverberatory Furnace input within the baseline period was used to correlate with historically high production periods. It is reasonable to expect the maximum 3-month production rate to be achieved on an annual basis at some point in the next 5 years even if the proposed project were not implemented.

Future projected process rate (if project is not completed):

Aluminum processing rate:	50,912	ton/yr	
Natural gas usage rate:	308.00	MMscf/yr	=271 MMscf/yr in baseline / 44,875 ton Al/yr in baseline x 50,912 ton Al/yr projected

Pollutant	Emission Factor	"Could Have Accom." Emissions (tpy)
PM	0.16 lb/ton	4.07
PM10	0.18 lb/ton	4.49
PM2.5	0.17 lb/ton	4.22
NOX	0.21 lb/ton	5.35
CO	84.00 lb/MMscf	12.94
VOC	0.030 lb/ton	0.76
SO2	0.60 lb/MMscf	0.092
CH4	2.28 lb/MMscf	0.35
N2O	0.23 lb/MMscf	0.035
CO2e	121,197 lb/MMscf	18,664

Pollutant	"Could Have Accom." Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Unrelated to the Project (tpy)
PM	4.07	3.59	0.48
PM10	4.49	3.96	0.53
PM2.5	4.22	3.72	0.50
NOX	5.35	4.71	0.63
CO	12.94	11.40	1.53
VOC	0.76	0.67	0.091
SO2	0.092	0.081	0.011
CH4	0.35	0.31	0.042
N2O	0.035	0.031	4.17E-03
CO2e	18,664	16,451	2,213

8.6 Project Emission Increases for Reverberatory Furnace

> In accordance with 401 KAR 51:017 Section 1(4)(a) and (b), the emissions increase for an existing emission unit is the difference between the projected actual emissions (excluding emissions that could have been accommodated and are unrelated to the project) and the baseline actual emissions. For the Reverberatory Furnace, these emissions increases are shown in the table below.

8.6.1 Reverberatory Emissions Increase

Pollutant	Projected Actual Emissions (tpy)	Baseline Actual Emissions (tpy)	Emissions Increases Without Adjustments (tpy)	Emissions Increases Unrelated to the Project (tpy)	Emissions Increases With Adjustments (tpy)
PM	6.08	3.59	2.49	0.48	2.01
PM10	6.71	3.96	2.75	0.53	2.21
PM2.5	6.30	3.72	2.58	0.50	2.08
NOX	7.98	4.71	3.27	0.63	2.63
CO	19.31	11.40	7.91	1.53	6.37
VOC	1.14	0.67	0.47	0.091	0.38
SO2	0.14	0.081	0.056	0.011	0.046
CH4	0.52	0.31	0.21	0.042	0.17
N2O	0.052	0.031	0.021	4.17E-03	0.017
CO2e	27,861	16,451	11,410	2,213	9,197

APPENDIX D. DEP7007 APPLICATION FORMS

- AI Form – Administration Information
- N Form – Source Emissions Profile
- FF Form – Secondary Aluminum Processing
- GG Form – Control Equipment

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007AI

Administrative Information

___ Section AI.1: Source Information

___ Section AI.2: Applicant Information

___ Section AI.3: Owner Information

___ Section AI.4: Type of Application

___ Section AI.5: Other Required Information

___ Section AI.6: Signature Block

___ Section AI.7: Notes, Comments, and Explanations

Additional Documentation

None

___ Additional Documentation attached

Source Name: Real Alloy Recycling, LLC

KY EIS (AFS) #: 21- 031-00033

Permit #: V-19-026 R1

Agency Interest (AI) ID: 11316

Date: Feb-24

Section AI.1: Source Information

Physical Location Address:	**Street:**	805 Gardner Lane				
	City:	Morgantown	**County:**	Butler	**Zip Code:**	42261
Mailing Address:	**Street or P.O. Box:**	805 Gardner Lane				
	City:	Morgantown	**State:**	KY	**Zip Code:**	42261

Standard Coordinates for Source Physical Location

Longitude: -86.72 (decimal degrees) **Latitude:** 37.21 (decimal degrees)

Primary (NAICS) Category: Secondary Smelting and Alloying of Aluminum **Primary NAICS #:** 331314

Classification (SIC) Category: Secondary Smelting and Refining of Nonferrous Metals **Primary SIC #:** 3341

Briefly discuss the type of business conducted at this site: Secondary aluminum smelting from scrap to sows/crucibles

Description of Area Surrounding Source: ☐ Rural Area ☐ Industrial Park ☐ Residential Area ☐ Urban Area ☑ Industrial Area ☐ Commercial Area

Is any part of the source located on federal land? ☐ Yes ☑ No

Number of Employees: >100

Approximate distance to nearest residence or commercial property: *Approx. 400 Yard*

Property Area: Approx. 551 Acres

Is this source portable? ☐ Yes ☑ No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

NPDES/KPDES:	☑ Currently Hold	☐ Need	☐ N/A
Solid Waste:	☑ Currently Hold	☐ Need	☐ N/A
RCRA:	☐ Currently Hold	☐ Need	☑ N/A
UST:	☐ Currently Hold	☐ Need	☑ N/A

Type of Regulated Waste Activity:

☐ Mixed Waste Generator ☐ Generator ☑ Recycler ☐ Other: _____

☐ U.S. Importer of Hazardous Waste ☐ Transporter ☐ Treatment/Storage/Disposal Facility ☐ N/A

Section AI.2: Applicant Information

Applicant Name: Real Alloy Recycling, LLC

Title: (if individual)

Mailing Address:
Street or P.O. Box: (Same as Source)
City: **State:** **Zip Code:**

Email: (if individual)

Phone: (270) 526-5688

Technical Contact

Name: Jennifer Zavoda

Title: Sr. Environmental Manager

Mailing Address:
Street or P.O. Box: (Same as Source)
City: **State:** **Zip Code:**

Email: Jennifer.Zavoda@realalloy.com

Phone: (216) 755-8821

Air Permit Contact for Source

Name: (Same as Technical Contact)

Title:

Mailing Address:
Street or P.O. Box:
City: **State:** **Zip Code:**

Email:

Phone:

Section AI.3: Owner Information

☑ **Owner same as applicant**

Name:

Title:

Mailing Address: **Street or P.O. Box:**

City: **State:** **Zip Code:**

Email:

Phone:

List names of owners and officers of the company who have an interest in the company of 5% or more.

Name	Position

Section AI.4: Type of Application

Current Status: ☑ Title V ☐ Conditional Major ☐ State-Origin ☐ General Permit ☐ Registration ☐ None

Requested Action: *(check all that apply)*

☐ Name Change	☐ Initial Registration	☑ Significant Revision	☐ Administrative Permit Amendment
☐ Renewal Permit	☐ Revised Registration	☐ Minor Revision	☐ Initial Source-wide OperatingPermit
☐ 502(b)(10)Change	☐ Extension Request	☐ Addition of New Facility	☐ Portable Plant Relocation Notice
☐ Revision	☐ Off Permit Change	☐ Landfill Alternate Compliance Submittal	☐ Modification of Existing Facilities
☐ Ownership Change	☐ Closure		

Requested Status: ☑ Title V ☐ Conditional Major ☐ State-Origin ☐ PSD ☐ NSR ☐ Other: _____

Is the source requesting a limitation of potential emissions? ☐ Yes ☑ No

Pollutant:	Requested Limit:	Pollutant:	Requested Limit:
☐ Particulate Matter		☐ Single HAP	
☐ Volatile Organic Compounds (VOC)		☐ Combined HAPs	
☐ Carbon Monoxide		☐ Air Toxics (40 CFR 68, Subpart F)	
☐ Nitrogen Oxides		☐ Carbon Dioxide	
☐ Sulfur Dioxide		☐ Greenhouse Gases (GHG)	
☐ Lead		☐ Other	

For New Construction:

Proposed Start Date of Construction: *(MM/YYYY)* Late Q2 2024

Proposed Operation Start-Up Date: *(MM/YYYY)* Q3 2024

For Modifications:

Proposed Start Date of Modification: *(MM/YYYY)* Late Q2 2024

Proposed Operation Start-Up Date: *(MM/YYYY)* Q3 2024

Applicant is seeking coverage under a permit shield. ☐ **Yes** ☑ **No**

Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.

Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- ☐ DEP7007A Indirect Heat Exchangers and Turbines
- ☐ DEP7007B Manufacturing or Processing Operations
- ☐ DEP7007C Incinerators and Waste Burners
- ☐ DEP7007F Episode Standby Plan
- ☐ DEP7007J Volatile Liquid Storage
- ☐ DEP7007K Surface Coating or Printing Operations
- ☐ DEP7007L Mineral Processes
- ☐ DEP7007M Metal Cleaning Degreasers
- ☑ DEP7007N Source Emissions Profile
- ☐ DEP7007P Perchloroethylene Dry Cleaning Systems
- ☐ DEP7007R Emission Offset Credit
- ☐ DEP7007S Service Stations
- ☐ DEP7007T Metal Plating and Surface Treatment Operations
- ☐ DEP7007V Applicable Requirements and Compliance Activities
- ☐ DEP7007Y Good Engineering Practice and Stack Height Determination
- ☐ DEP7007AA Compliance Schedule for Non-complying Emission Units
- ☐ DEP7007BB Certified Progress Report
- ☐ DEP7007CC Compliance Certification
- ☐ DEP7007DD Insignificant Activities
- ☐ DEP7007EE Internal Combustion Engines
- ☑ DEP7007FF Secondary Aluminum Processing
- ☑ DEP7007GG Control Equipment
- ☐ DEP7007HH Haul Roads
- ☐ Confidentiality Claim
- ☐ Ownership Change Form
- ☐ Secretary of State Certificate
- ☐ Flowcharts or diagrams depicting process
- ☐ Digital Line Graphs (DLG) files of buldings, roads, etc.
- ☐ Site Map
- ☐ Map or drawing depicting location of facility
- ☐ Safety Data Sheet (SDS)
- ☐ Emergency Response Plan
- ☐ Other: _____

Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

[signature]	2-21-2024
Authorized Signature	**Date**
Matthew Kamboures	Plant Manager
Type or Printed Name of Signatory	**Title of Signatory**

*Responsible official as defined by 401 KAR 52:001.

Section AI.7: Notes, Comments, and Explanations

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007N

Source Emissions Profile

__ Section N.1: Emission Summary

__ Section N.2: Stack Information

__ Section N.3: Fugitive Information

__ Section N.4: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI

Source Name: Real Alloy Recycling, LLC

KY EIS (AFS) #: 21- 031-00033

Permit #: V-19-026 R1

Agency Interest (AI) ID: 11316

Date: Feb-24

N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	PM	0.11	Sept. 2021 SMACT test	na	na	0.45	na	1.97	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	PM10	0.28	Sept. 2021 RF5 SMACT test & Nov. 2023 RF8/9 compliance test	na	na	1.20	na	5.24	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	PM2.5	0.23	Sept. 2021 RF5 SMACT test & Nov. 2023 RF8/9 compliance test	na	na	0.97	na	4.23	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	VOC	1.20	Nov. 2023 RF8/9 compliance test	na	na	5.04	na	22.08	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	NOx	0.38	Burner vendor data & 2006 Goodyear AZ compliance test	na	na	1.58	na	6.90	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	CO	3.77	Burner vendor data & Nov. 2023 RF8/9 compliance test	na	na	15.85	na	69.44	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	HCl	0.12	Sept. 2021 SMACT test	na	na	0.51	na	2.22	na
EU04	Rotary Furnace #5	1	Charging & Melting	Baghouse 13	BH 13	S4	4.20	D/F	1.09E-09	Sept. 2021 SMACT test	na	na	4.58E-09	na	2.01E-08	na
EU04	Rotary Furnace #5	2	Natural Gas Usage	Baghouse 13	BH 13	S4	0.015	SO2	0.60	AP 42 Table 1.4-2	na	na	9.28E-03	na	0.041	na
EU04	Rotary Furnace #5	2	Natural Gas Usage	Baghouse 13	BH 13	S4	0.015	CO2	121,071	40 CFR 98 Subpart C, Table C-1	na	na	1,872	na	8,198	na
EU04	Rotary Furnace #5	2	Natural Gas Usage	Baghouse 13	BH 13	S4	0.015	CH4	2.282	40 CFR 98 Subpart C, Table C-2	na	na	0.035	na	0.15	na
EU04	Rotary Furnace #5	2	Natural Gas Usage	Baghouse 13	BH 13	S4	0.015	N2O	0.228	40 CFR 98 Subpart C, Table C-2	na	na	3.53E-03	na	0.015	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM	6.09	Nov. 2023 compliance test	99.0%	98.01%	49.57	0.99	81.09	1.61
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM10	13.70	Nov. 2023 compliance test	99.0%	98.01%	111.53	2.22	182.46	3.63
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM2.5	11.67	Nov. 2023 compliance test	99.0%	98.01%	95.01	1.89	155.43	3.09
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	VOC	1.21	Nov. 2023 compliance test	99.0%	na	9.86	na	16.14	na
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	NOx	0.30	2006 Goodyear AZ compliance test	99.0%	na	2.47	na	4.03	na
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	CO	1.41	Nov. 2023 compliance test	99.0%	na	11.51	na	18.83	na
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	HCl	2.08	Aug. 2021 SMACT test	99.0%	98.01%	16.94	0.34	27.71	0.55
EU13	Rotary Furnace #8	1	Stack: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	D/F	1.19E-09	Aug. 2021 SMACT test	99.0%	na	9.66E-09	na	1.58E-08	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM	0.061	Engineering Estimate	na	na	0.50	na	0.82	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM10	0.14	Engineering Estimate	na	na	1.13	na	1.84	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	PM2.5	0.12	Engineering Estimate	na	na	0.96	na	1.57	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	VOC	0.012	Engineering Estimate	na	na	0.10	na	0.16	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	NOx	3.03E-03	Engineering Estimate	na	na	0.025	na	0.041	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	CO	0.014	Engineering Estimate	na	na	0.12	na	0.19	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	HCl	0.021	Engineering Estimate	na	na	0.17	na	0.28	na
EU13	Rotary Furnace #8	2	Fug: Dross, Cncntrt, Salt Ck	Baghouse 11	BH 11	S13	8.22	D/F	1.19E-11	Engineering Estimate	na	na	9.76E-11	na	1.60E-10	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM	6.09	Nov. 2023 compliance test	99.0%	98.01%	49.57	0.99	136.01	2.71
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM10	4.37	Nov. 2023 compliance test	99.0%	98.01%	35.52	0.71	97.48	1.94
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM2.5	1.83	Nov. 2023 compliance test	99.0%	98.01%	14.87	0.30	40.80	0.81
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	VOC	1.21	Nov. 2023 compliance test	99.0%	na	9.86	na	27.07	na
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	NOx	0.30	2006 Goodyear AZ compliance test	99.0%	na	2.47	na	6.77	na
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	CO	3.79	Nov. 2023 compliance test	99.0%	na	30.83	na	84.58	na
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	HCl	2.08	Aug. 2021 SMACT test	99.0%	98.01%	16.94	0.34	46.47	0.92
EU13	Rotary Furnace #8	3	Stack: All Other Charge	Baghouse 11	BH 11	S13	8.22	D/F	1.19E-09	Aug. 2021 SMACT test	99.0%	na	9.66E-09	na	2.65E-08	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU13	Rotary Furnace #8	4	Natural Gas Usage	Baghouse 11	BH 11	S13	0.023	SO2	0.60	AP 42 Table 1.4-2	na	na	0.014	na	0.061	na
EU13	Rotary Furnace #8	4	Natural Gas Usage	Baghouse 11	BH 11	S13	0.023	CO2	121,071	40 CFR 98 Subpart C, Table C-1	na	na	2,807	na	12,297	na
EU13	Rotary Furnace #8	4	Natural Gas Usage	Baghouse 11	BH 11	S13	0.023	CH4	2.28	40 CFR 98 Subpart C, Table C-2	na	na	0.053	na	0.23	na
EU13	Rotary Furnace #8	4	Natural Gas Usage	Baghouse 11	BH 11	S13	0.023	N2O	0.23	40 CFR 98 Subpart C, Table C-2	na	na	5.29E-03	na	0.023	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM	0.061	Engineering Estimate	na	na	0.50	na	2.19	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM10	0.044	Engineering Estimate	na	na	0.36	na	1.57	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	PM2.5	0.018	Engineering Estimate	na	na	0.15	na	0.66	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	VOC	0.012	Engineering Estimate	na	na	0.10	na	0.44	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	NOx	3.03E-03	Engineering Estimate	na	na	0.025	na	0.11	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	CO	0.038	Engineering Estimate	na	na	0.31	na	1.36	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	HCl	0.021	Engineering Estimate	na	na	0.17	na	0.75	na
EU13	Rotary Furnace #8	5	Fug: All Other Charge	Baghouse 11	BH 11	S13	8.22	D/F	1.19E-11	Engineering Estimate	na	na	9.76E-11	na	4.27E-10	na
EU21	Primary Shredder	1	Shredder Primary	Shredder Baghouse 2	BH 17	S18	38.00	PM	1.00	Grain Loading Design Basis	na	97.0%	38.10	1.14	166.86	5.01
EU21	Primary Shredder	1	Shredder Primary	Shredder Baghouse 2	BH 17	S18	38.00	PM10	0.51	EPA PM Calculator	na	97.0%	19.43	0.58	85.10	2.55
EU21	Primary Shredder	1	Shredder Primary	Shredder Baghouse 2	BH 17	S18	38.00	PM2.5	0.15	EPA PM Calculator	na	97.0%	5.71	0.17	25.03	0.75
EU21	Primary Shredder	2	Shredder Fugitives	na	na	na	38.00	PM	0.020	Engineering Estimate	na	na	0.78	na	3.41	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU21	Primary Shredder	2	Shredder Fugitives	na	na	na	38.00	PM10	0.010	Engineering Estimate	na	na	0.40	na	1.74	na
EU21	Primary Shredder	2	Shredder Fugitives	na	na	na	38.00	PM2.5	3.07E-03	Engineering Estimate	na	na	0.12	na	0.51	na
EU22	Secondary Shredder	1	Shredder Secondary	Shredder Baghouse 2	BH 17	S18	19.00	PM	1.00	Grain Loading Design Basis	na	97.0%	19.05	0.57	83.43	2.50
EU22	Secondary Shredder	1	Shredder Secondary	Shredder Baghouse 2	BH 17	S18	19.00	PM10	0.51	EPA PM Calculator	na	97.0%	9.71	0.29	42.55	1.28
EU22	Secondary Shredder	1	Shredder Secondary	Shredder Baghouse 2	BH 17	S18	19.00	PM2.5	0.15	EPA PM Calculator	na	97.0%	2.86	0.09	12.51	0.38
EU22	Secondary Shredder	2	Shredder Fugitives	na	na	na	19.00	PM	0.020	Engineering Estimate	na	na	0.39	na	1.70	na
EU22	Secondary Shredder	2	Shredder Fugitives	na	na	na	19.00	PM10	0.010	Engineering Estimate	na	na	0.20	na	0.87	na
EU22	Secondary Shredder	2	Shredder Fugitives	na	na	na	19.00	PM2.5	3.07E-03	Engineering Estimate	na	na	0.06	na	0.26	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU23	Holding Furnace	1	Aluminum Production	na	na	S19	4.20	PM	0.013	Similar unit stack test	na	na	0.053	na	0.23	na
EU23	Holding Furnace	1	Aluminum Production	na	na	S19	4.20	PM10	0.015	Similar unit stack test & TRC report	na	na	0.062	na	0.27	na
EU23	Holding Furnace	1	Aluminum Production	na	na	S19	4.20	PM2.5	0.014	Similar unit stack test & TRC report	na	na	0.059	na	0.26	na
EU23	Holding Furnace	1	Aluminum Production	na	na	S19	4.20	VOC	6.13E-03	Similar unit stack test	na	na	0.026	na	0.11	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	NOx	57.77	Vendor Estimate	na	na	0.55	na	2.40	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	CO	84.00	AP-42 Table 1.4-1	na	na	0.80	na	3.48	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	SO2	0.60	AP-42 Table 1.4-2	na	na	5.68E-03	na	0.025	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	Lead	5.00E-04	AP-42 Table 1.4-2	na	na	4.73E-06	na	2.07E-05	na

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity *(SCC Units/hour)*	Pollutant	Uncontrolled Emission Factor *(lb/SCC Units)*	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency *(%)*	Control Efficiency *(%)*	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential *(lb/hr)*	Controlled Potential *(lb/hr)*	Uncontrolled Potential *(tons/yr)*	Controlled Potential *(tons/yr)*
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	Total HAP	1.89	AP-42 Tables 1.4-3 & 1.4-4	na	na	0.018	na	0.078	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	CO2	121,071	40CFR98 Subpart C, Table C-1	na	na	1,146	na	5,021	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	CH4	2.28	40CFR98 Subpart C, Table C-2	na	na	0.022	na	0.095	na
EU23	Holding Furnace	2	Natural Gas Usage	na	na	S19	9.47E-03	N2O	0.23	40CFR98 Subpart C, Table C-2	na	na	2.16E-03	na	9.46E-03	na

Section N.2: Stack Information

UTM Zone: 16

Stack ID	Identify all Emission Units (with Process ID) and Control Devices that Feed to Stack	Stack Physical Data			Stack UTM Coordinates		Stack Gas Stream Data		
		Equivalent Diameter *(ft)*	Height *(ft)*	Base Elevation *(ft)*	Northing *(m)*	Easting *(m)*	Flowrate *(acfm)*	Temperature *(° F)*	Exit Velocity *(ft/sec)*
S4	Rotary Furnace #5	3	43	521	4,117,826	524,750	26,818	184	63.23
S13	Rotary Furnace #8	5	34.2	521	4,117,792	524,645	63,301	222	53.73
S18	Primary Shredder & Secondary Shredder	3	25	521	4,117,993	524,710	50,000	68	117.89
S19	Holding Furnace	3.33	52	521	TBD	TBD	15,764	600	30.17

Section N.3: Fugitive Information

UTM Zone:

Emission Unit #	Emission Unit Name	Process ID	Area Physical Data		Area UTM Coordinates		Area Release Data	
			Length of the X Side *(ft)*	Length of the Y Side *(ft)*	Northing *(m)*	Easting *(m)*	Release Temperature *(°F)*	Release Height *(ft)*
Not applicable.								

Section N.4: Notes, Comments, and Explanations

Green highlight with maroon text indicates a change to an existing unit from the project.

The stack parameters on N.2 for the new Holding Furnace were selected as equivalent to the existing Holding Furnace as representative. The new Holding Furnace may be vented into the building rather than roof penetrating.

Division for Air Quality

300 Sower Boulevard
Frankfort, KY 40601
(502) 564-3999

DEP7007FF

Secondary Aluminum Processing

___ Section FF.1: Aluminum Scrap Shredders
___ Section FF.2: Dryer or Kiln
___ Section FF.3: Furnace
___ Section FF.4: In-Line Fluxer
___ Section FF.5: Hot Dross
___ Section FF.6: Rotary Dross Cooler
___ Section FF.7: Secondary Aluminum Processing Unit ID
___ Section FF.8: Notes, Comments, and Explanations

Additional Documentation

___ Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG

___ Attach application design information and analysis

___ Process flow diagram

___ SDS attached

Source Name: Real Alloy Recycling, LLC
KY EIS (AFS) #: 21- 031-00033
Permit #: V-19-026 R1
Agency Interest (AI) ID: 11316
Date: Feb-24

Section FF.1: Aluminum Scrap Shredders

Emission Unit #	Emission Unit Name	Process ID	SCC Code	SCC Units	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	Maximum Design Capacity of Each Unit *(SCC Units/hr)*	Stack ID	Type of Scrap	Control Device ID	Describe Capture Method	Capture Efficiency *(%)*	Have ACGIH requirements been completed? *(Y/N)*
EU16	Shredder System	1 & 2	30400199	Tons Metal Produced	01/2013	12.04	Shredder BH	UBC, automotive sheet, class 2 briquettes	Shredder BH	Hoods	98%	Y

Emission Unit #	Emission Unit Name	Process ID	SCC Code	SCC Units	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	Maximum Design Capacity of Each Unit *(SCC Units/hr)*	Stack ID	Type of Scrap	Control Device ID	Describe Capture Method	Capture Efficiency *(%)*	Have ACGIH requirements been completed? *(Y/N)*
EU21	Primary Shredder	1 & 2	30400199	Tons Metal Produced	07/2024	38	S18	UBC, automotive sheet, class 2 briquettes, painted siding	BH 17	Hoods	98%	Y
EU22	Secondary Shredder	1 & 2	30400199	Tons Metal Produced	07/2024	19	S18	UBC, automotive sheet, class 2 briquettes, painted siding	BH 17	Hoods	98%	Y

Section FF.3: Furnace - Sweat/Reverberatory/Crucible/Induction/Rotary

Emission Unit #	Emission Unit Name	Process ID	SCC Code	SCC Units	Proposed/Actual Date of Construction Commencement *(MM/YYYY)*	Type of Furnace	Group 1 or 2	Type of Flux	Maximum Flux Used *(lb/cycle)*	Rated Burner Capacity *(MMBTU/hr)*	Fuel(s) Used	Maximum Design Capacity of Each Unit *(SCC Units/hr)*	Cycle Time *(hrs)*	Clean Charge? *(Y/N)*	Stack ID	Control Device ID	Describe Capture Method	Capture Efficiency *(%)*	Have ACGIH requirements been completed? *(Y/N)*
EU04	Rotary Furnace #5	1 & 2	30400199	Tons Material Produced	1990	Rotary	Group 1	Solid	310 lb/ton	16	Natural gas	4.20	3	N	S4	BH 13	Hood	na	Yes
EU13	Rotary Furnace #8	1 through 5	30400199	Tons Material Produced	2011	Rotary	Group 1	Solid	348 lb/ton	24	Natural gas	8.22	3	N	S13	BH 11	Hood	99%	Yes
EU23	Holding Furnace	1 & 2	30400199	Tons Material Produced	2024	Holder	Group 2	na	na	9.8	Natural gas	4.20	3	Y	S19	na	na	na	na

Section FF.8: Notes, Comments, and Explanations

Division for Air Quality

300 Sower Boulevard

Frankfort, KY 40601

(502) 564-3999

DEP7007GG

Control Equipment

Additional Documentation

___ Complete Sections GG.1 through GG.12, as applicable

___ Attach manufacturer's specifications for each control device

___ Complete DEP7007AI

Source Name: Real Alloy Recycling, LLC

KY EIS (AFS) #: 21- 031-00033

Permit #: V-19-026 R1

Agency Interest (AI) ID: 11316

Date: Feb-24

Section GG.1: General Information - Control Equipment

Control Device ID #	Control Device Name	Cost	Manufacturer	Model Name/ Serial #	Date Installed	Inlet Gas Stream Data For All Control Devices					Inlet Gas Stream Data For Condensers, Adsorbers, Afterburners, Incinerators, Oxidizers Only			Equipment Operational Data For All Control Devices		
						Temperature (°F)	Flowrate (scfm @ 68 °F)	Average Particle Diameter (μm)	Particle Density (lb/ft^3) or Specific Gravity	Gas Density (lb/ft^3)	Gas Moisture Content (%)	Gas Composition	Fan Type	Pressure Drop Range ($in.\ H_2O$)	Pollutants Collected/ Controlled	Pollutant Removal (%)
BH 17	Shredder Baghouse 2	Unk.	Donaldson Torit	RF 484	2024	68	50,000	na	na	0.075	na	na	na	2-10	PM/PM10/ PM2.5	PM = 97.0% PM10 = 97.0% PM2.5 = 97.0%

Section GG.6: Filter

Control Device ID #	Identify all Emission Units and Control Devices that Feed to Filter	Identify Type of Filter Unit: Baghouse, Cartridge Collector, or Other (specify)	Identify Type of Filtering Material: Fabric, Paper, Synthetic, or Other (specify)	Total Filter Area *(ft²)*	Effective Air-to-Filter Ratio *(acfm/ft²)*	Continuous Monitoring Instrumentation (e.g. COMS, BLDS, none)	Additional Materials Introduced into the Control System (e.g. lime, carbon)		Identify Cleaning Method: Shaker, Pulse Air, Reverse Air, Pulse Jet, or Other (specify)	Identify Gas Cooling Method: Ductwork, Heat Exchanger, Bleed-in Air, Water Spray, or Other (specify)	For Ductwork:		For Bleed-in Air:	For Water Spray:
							Material	Injection Rate *(lb/hr)*			Length *(ft)*	Diameter *(ft)*	Flowrate *(scfm @ 68°F)*	Flowrate *(gal/min)*
BH 17	Primary Shredder & Secondary Shredder	Baghouse	Fabric	7,550	6.6	BLDS	na	na	Reverse Flow	na	na	na	na	na

Section GG.12: Notes, Comments, and Explanations

APPENDIX E. SUGGESTED TITLE V PERMIT EDITS

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection
Division for Air Quality
300 Sower Boulevard, 2nd Floor
Frankfort, Kentucky 40601
(502) 564-3999

Final

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Real Alloy Recycling**
Mailing Address:	**805 Gardner Lane** **Morgantown, KY 42261**
Source Name:	**Real Alloy Recycling**
Mailing Address:	**805 Gardner Lane** **Morgantown, KY 42261**
Source Location:	**Same as above**
Permit:	**V-19-026 R1**
Agency Interest:	**11316**
Activity:	**APE20210005; APE20220003**
Review Type:	**Title V, Construction/Operating**
Source ID:	**21-031-00033**
Regional Office:	**Bowling Green Regional Office** **2642 Russellville Road** **Bowling Green, KY 42101** **(270) 746-7475**
County:	**Butler**
Application Complete Date:	**August 16, 2019**
Issuance Date:	**October 14, 2021**
Revision Date:	**March 16, 2023**
Expiration Date:	**October 14, 2026**

Rick Shewekah

For Michael J. Kennedy, P.E.
Director
Division for Air Quality

TABLE OF CONTENTS

Permit	Permit Type	Activity#	Complete Date	Issuance Date	Summary of Action
V-19-026	**Renewal**	**APE20190001; APE20190002**	**8/16/2019**	**10/14/2021**	**Renewal Permit**
V-19-026 R1	**Significant Revision**	**APE20210005; APE20220003**	**12/14/2021; 11/8/2022**	**3/16/2023**	**Replacement of Rotary Furnace EU04 with EU18. Addition of EU19 and EU20, Preheater and Charge Car on rails as IAs**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Energy and Environment Cabinet (Cabinet) hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes (KRS) Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.

Definitions: The following definitions apply to all abbreviations and variables used in this permit:

°C	Degrees Centigrade
°F	Degrees Fahrenheit
CO	Carbon Monoxide
D/F	Dioxins and Furans
dscf/hr	dry standard cubic feet per hour
dscm	dry standard cubic meter
eff.	efficiency (control)
Eq.	Equation
EU	Emission Unit
gr/dscf	grains per dry standard cubic foot
gr/ton	grains per ton
HCl	Hydrochloric Acid
KCl	Potassium Chloride
kg/Mg	kilogram per milligram
lb/hr	pounds per hour
lb/ton	pounds per ton
µg/Mg	microgram per milligram
MMBtu/hr	Million British Thermal Units per hour
NaCl	Sodium Chloride
OM&M	Operation, Maintenance, and Monitoring
PM	Total Particulate Matter
PM_{10}	PM with an aerodynamic diameter less than or equal to 10 micrometers
$PM_{2.5}$	PM with an aerodynamic diameter less than or equal to 2.5 micrometers
QIP	Quality Improvement Plan
SAPU	Secondary Aluminum Processing Unit
TEQ	Toxicity equivalents for dioxins and furans
VOC	Volatile Organic Compounds

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Unit 02 (EU02) Delacquering Furnace

Description: Shredded can coatings and siding paint are removed in a natural gas-fired delacquering furnace. This unit is classified as a scrap dryer/delacquering kiln/decoating kiln under 40 CFR 63, Subpart RRR.

Maximum Capacity:	11.5 ton/hr delacquered (cleaned) scrap
Maximum Firing Rate:	18 MMBtu/hr
Control Devices:	Lime-injected baghouse filter (shared with EU03) Afterburner
Construction Commenced:	May 13, 1998, Afterburner added in 2010

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   a. The permittee shall not exceed 276 tons of aluminum processed per rolling 24-hour period. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements.**

   b. The associated control device(s) shall be operated at all times when the delacquering furnace is operating. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      The permittee shall report any time the unit is operated without the lime-injected baghouse and afterburner in operation. The permittee must calculate the excess emissions that occurred during an outage and report the deviation in accordance with 401 KAR 50:055. Refer to **5. Specific Recordkeeping Requirements**. Refer to **SECTION E**.

   c. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   d. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

e. The permittee must provide and maintain easily visible labels posted at each scrap dryer/delacquering kiln/decoating kiln that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
   i. The type of affected source or emission unit (e.g. scrap dryer/delacquering kiln/decoating kiln). [40 CFR 63.1506(b)(1)]
   ii. The applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace, (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]
   iii. The afterburner operating temperature and design residence time for a scrap dryer/delacquering kiln/decoating kiln. [40 CFR 63.1506(b)(3)]

f. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
   i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, refer to 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
   ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
   iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

g. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/tn) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]
   i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1)]
   ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]
   iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit. [40 CFR 63.1506(d)(3)]

h. The permittee must: [40 CFR 63.1506(g)]
   i. For each afterburner, [40 CFR 63.1506(g)(1)]
      1) Maintain the 3-hour block average operating temperature of each afterburner at or above the average temperature established during the performance test. [40 CFR 63.1506(g)(1)(i)]
      2) Operate each afterburner in accordance with the OM&M plan. [40 CFR 63.1506(g)(1)(ii)]
   ii. If a bag leak detection system is used to meet the fabric filter monitoring requirements in 40 CFR 63.1510, [40 CFR 63.1506(g)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Initiate corrective action within 1-hour of a bag leak detection system alarm and complete any necessary corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(g)(2)(i)]
2) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(g)(2)(ii)]

iii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, initiate corrective action within 1-hour of any 6-minute average reading of 5 percent or more opacity and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(g)(3)]

iv. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(g)(4)]

v. For a continuous injection device, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(g)(5)]

i. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

j. The permittee shall prepare and implement for each decoating kiln, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
    1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
    2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
    1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
    2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]
vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not discharge or cause to be discharged to the atmosphere emissions in excess of: [40 CFR 63.1505(d)(1)]
    i. 0.03 kg of THC, as propane, per Mg (0.06 lbs of THC, as propane, per ton) of feed/charge; [40 CFR 63.1505(d)(1)(i)]
    ii. 0.04 kg of PM per Mg (0.08 lbs per ton) of feed/charge; [40 CFR 63.1505(d)(1)(ii)]
    iii. 0.25 µg of D/F TEQ per Mg (3.5×10^{-6} gr of D/F TEQ per ton) of feed/charge; [40 CFR 63.1505(d)(1)(iii)]
    iv. 0.40 kg of HCl per Mg (0.80 lbs per ton) of feed/charge. [40 CFR 63.1505(d)(1)(iv)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. The permittee must not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(d)(2)]

d. The permittee may choose to comply with the emission limits as specified in 40 CFR 63.1505(e) as an alternative to the limits in 40 CFR 63.1505(d) if the scrap dryer/delacquering kiln is equipped with an afterburner having a design residence time of at least 1 second and the afterburner is operated at a temperature of at least 760ºC (1400ºF) at all times. [40 CFR 63.1505(e)]
   i. The permittee must not discharge or cause to be discharged to the atmosphere emissions in excess of: [40 CFR 63.1505(e)(1)]
      1) 0.10 kg of THC, as propane, per Mg (0.20 lb of THC, as propane, per ton) of feed/charge; [40 CFR 63.1505(e)(1)(i)]
      2) 0.15 kg of PM per Mg (0.30 lb per ton) of feed/charge; [40 CFR 63.1505(e)(1)(ii)]
      3) 5.0 µg of D/F TEQ per Mg (7.0×10^{-5} gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(e)(1)(iii)]
      4) 0.75 kg of HCl per Mg (1.50 lb per ton) of feed/charge. [40 CFR 63.1505(e)(1)(iv)]
   ii. The permittee must not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(e)(2)]

Compliance Demonstration Method:

A. *THC emission limits.* Use Eq. 6 to determine compliance with an emission limit for THC: [40 CFR 63.1513(a)]

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{M_v \times P \times 10^6} \qquad (Eq.\ 6)$$

Where,
E = Emission rate of measured pollutant, kg/Mg (lb/ton) of feed;
C = Measured volume fraction of pollutant, ppmv;
MW = Molecular weight of measured pollutant, g/g-mole (lb/lb-mole): THC (as propane) = 44.11;
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/lb);
K_2 = Conversion factor, 1,000 L/m^3 (1 ft^3/ft^3);
M_v = Molar volume, 24.45 L/g-mole (385.3 ft^3/lb-mole); and
P = Production rate, Mg/hr (ton/hr).

B. *PM and HCl emission limits*. Use Eq.7 to determine compliance with an emission limit for PM and HCl: [40 CFR 63.1513(b)(1)]

$$E = \frac{C \times Q \times K_1}{P} \qquad (Eq.\ 7)$$

Where:
E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;
C = Concentration of PM or HCl, g/dscm (gr/dscf);

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
P = Production rate, Mg/hr (ton/hr).

C. *D/F emission limits.* Use Equation 7A to determine compliance with emission limits for D/F: [40 CFR 63.1513(b)(2)]

$$E=\frac{C\times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:
E = Emission rate of D/F, µg/Mg (gr/ton) of feed;
C = Concentration of D/F, µg/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and
P = Production rate, Mg/hr (ton/hr).

D. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]

I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]

II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

E. Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

e. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

f. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$
Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

3. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the rule requirements, and must obtain approval of the plan pursuant to the procedures set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

b. The permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of 3 runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
   v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 9 for visible emission observations. [40 CFR 63.1511(c)(9)]
   vii. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]
   viii. Method 25A for the concentration of THC, as propane. [40 CFR 63.1511(c)(8)]
   ix. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the permittee must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system. [40 CFR 63.1511(c)(9)]

Commented [EM1]: Please add for consistency with the Reverberatory Furnace language because the baghouse is shared.

d. The permittee may use an alternative test method approved by the Administrator. [40 CFR 63.1511(d)(3)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division: [40 CFR 63.1511(g)]
   i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]
   ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]
   iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]
   iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]
   v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition, if the permittee

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

wants to use existing data in addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. With the prior approval of the Division, a permittee may do combined performance testing of two or more individual affected sources or emission units which are not included in a single existing SAPU or new SAPU, but whose emissions are manifolded to a single control device. Any such performance testing of commonly-ducted units must satisfy the following basic requirements: [40 CFR 63.1511(i)]
   i. All testing must be designed to verify that each affected source or emission unit individually satisfies all emission requirements applicable to that affected source or emission unit; [40 CFR 63.1511(i)(1)]
   ii. All emissions of pollutants subject to a standard must be tested at the outlet from each individual affected source or emission unit while operating under the highest load or capacity reasonably expected to occur, and prior to the point that the emissions are manifolded together with emissions from other affected sources or emission units; [40 CFR 63.1511(i)(2)]
   iii. The combined emissions from all affected sources and emission units which are manifolded to a single emission control device must be tested at the outlet of the emission control device; [40 CFR 63.1511(i)(3)]
   iv. All tests at the outlet of the emission control device must be conducted with all affected sources and emission units whose emissions are manifolded to the control device operating simultaneously under the highest load or capacity reasonably expected to occur; and [40 CFR 63.1511(i)(4)]
   v. For purposes of demonstrating compliance of a commonly-ducted unit with any emission limit for a particular type of pollutant, the emissions of that pollutant by the individual unit shall be presumed to be controlled by the same percentage as total emissions of that pollutant from all commonly-ducted units are controlled at the outlet of the emission control device. [40 CFR 63.1511(i)(5)]

h. The permittee must conduct performance tests to measure emissions of THC, D/F, HCl, and PM at the outlet of the control device. [40 CFR 63.1512(c)]
   i. If the scrap dryer/delacquering kiln/decoating kiln is subject to the alternative emission limits in 40 CFR 63.1505(e), the average afterburner operating temperature in each 3-hour block period must be maintained at or above 760 °C (1400 °F) for the test. [40 CFR 63.1512(c)(1)]
   ii. The permittee of a scrap dryer/delacquering kiln/decoating kiln subject to the alternative limits in 40 CFR 63.1505(e) must submit a written certification in the notification of compliance status report containing the information required by 40 CFR 63.1515(b)(7). [40 CFR 63.1512(c)(2)]

i. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

j. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

k. These requirements apply to the permittee of an affected source using an afterburner to comply with the requirements of 40 CFR 63, Subpart RRR: [40 CFR 63.1512(m)]
   i. Prior to the initial performance test, the permittee must conduct a performance evaluation for the temperature-monitoring device according to the requirements of 40 CFR 63.8. [40 CFR 63.1512(m)(1)]
   ii. The permittee must use these procedures to establish an operating parameter value or range for the afterburner operating temperature. [40 CFR 63.1512(m)(2)]
      1) Continuously measure and record the operating temperature of each afterburner every 15 minutes during the THC and D/F performance tests; [40 CFR 63.1512(m)(2)(i)]
      2) Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(m)(2)(ii)]
      3) Determine and record the 3-hour block average temperature measurements for the 3 test runs. [40 CFR 63.1512(m)(2)(iii)]

l. The permittee of a scrap dryer/delacquering kiln/decoating kiln using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]
   i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests. [40 CFR 63.1512(n)(1)]
   ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]
   iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

m. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]
   i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and [40 CFR 63.1512(p)(1)]
   ii. Record the feeder setting for the 3 test runs. If the feed rate setting varies during the runs, determine and record the average feed rate from the 3 runs. [40 CFR 63.1512(p)(2)]

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n. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA–625/3–89–016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

o. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU 02,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (j)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

Commented [EM2]: Please remove these descriptions as it is clear from the emission unit section and had historically been copied incorrectly into subsequent sections.

c. The permittee must inspect the labels for each scrap dryer/delacquering kiln/decoating kiln at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. As an alternative to a measurement device, the permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]
   i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the Division for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

f. The permittee shall monitor the daily (24-hour rolling) aluminum processed. [401 KAR 52:020, Section 10]

g. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
   ii. For each affected source with emissions controlled by an afterburner: [40 CFR 63.1517(b)(2)]
      1) Records of 15-minute block average afterburner operating temperature, including any period when the average temperature in any 3-hour block period falls below the compliant operating parameter value with a brief explanation of the cause of the excursion and the corrective action taken; and[40 CFR 63.1517(b)(2)(i)]
      2) Records of annual afterburner inspections. [40 CFR 63.1517(b)(2)(ii)]
   iii. For each scrap dryer/delacquering kiln/decoating kiln, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]

iv. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]
   1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]
   2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]

vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]

vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]

viii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]

ix. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

x. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]

xi. For any failure to meet an applicable standard, the permittee shall maintain the following records; [40 CFR 63.1517(b)(18)]
   1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xii. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee shall comply with 40 CFR 63.1517(b)(19)(i) or (ii), below. [40 CFR 63.1517(b)(19)]

1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee shall submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
   A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(i)(A)]
   B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
   C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]
2) To demonstrate compliance based on performance tests, the permittee shall maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
   A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
   B. The measured emissions in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii)(B)]
   C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and[40 CFR 63.1517(b)(19)(ii)(C)]
   D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

c. The permittee shall maintain records of the daily (24-hour rolling) aluminum processed. [401 KAR 52:020, Section 10]

d. Refer to **SECTION F** for general recordkeeping requirements.

6. <u>Specific Reporting Requirements</u>:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

~~c. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]~~

~~d. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]~~

~~e.~~c. The permittee shall submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
   3) An excursion of a compliant process or operating parameter value or range (*e.g.,* lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
   4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
   1) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no feed/charge were added to the emission unit,

Commented [EM3]: This is a bit redundant to the requirement in Section G.5.a. and proves confusing that opacity/visible emission observation are mentioned but would only be required if visible emissions monitoring was used, which is not an option for the Delacquering Kiln. Please remove for clarity.

Commented [EM4]: Real Alloy does not rely on this option so please remove.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]

1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

~~f.~~d. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

~~g.~~e. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

~~h.~~f. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

~~i.~~g. Refer to **SECTION F** for general reporting requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. Specific Control Equipment Requirements:

a. The permittee of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]

1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

b. These requirements apply to the permittee of an affected source using an afterburner to comply with the requirements of 40 CFR 63, Subpart RRR: [40 CFR 63.1510(g)]
   i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the operating temperature of the afterburner consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(g)(1)]
   ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(g)(2)]
      1) The temperature monitoring device must be installed at the exit of the combustion zone of each afterburner. [40 CFR 63.1510(g)(2)(i)]
      2) The monitoring system must record the temperature in 15-minute block averages and determine and record the average temperature for each 3-hour block period. [40 CFR 63.1510(g)(2)(ii)]
      3) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(m). [40 CFR 63.1510(g)(2)(iii)]
      4) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple–potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(g)(2)(iv)]
   iii. The permittee must conduct an inspection of each afterburner at least once a year and record the results. At a minimum, an inspection must include: [40 CFR 63.1510(g)(3)]
      1) Inspection of all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor; [40 CFR 63.1510(g)(3)(i)]
      2) Inspection for proper adjustment of combustion air; [40 CFR 63.1510(g)(3)(ii)]
      3) Inspection of internal structures (e.g., baffles) to ensure structural integrity; [40 CFR 63.1510(g)(3)(iii)]
      4) Inspection of dampers, fans, and blowers for proper operation; [40 CFR 63.1510(g)(3)(iv)]
      5) Inspection for proper sealing; [40 CFR 63.1510(g)(3)(v)]
      6) Inspection of motors for proper operation; [40 CFR 63.1510(g)(3)(vi)]
      7) Inspection of combustion chamber refractory lining and clean and replace lining as necessary; [40 CFR 63.1510(g)(3)(vii)]
      8) Inspection of afterburner shell for corrosion and/or hot spots; [40 CFR 63.1510(g)(3)(viii)]
      9) Documentation, for the burn cycle that follows the inspection, that the afterburner is operating properly and any necessary adjustments have been made; and [40 CFR 63.1510(g)(3)(ix)]
      10) Verification that the equipment is maintained in good operating condition. [40 CFR 63.1510(g)(3)(x)]
      11) Following an equipment inspection, all necessary repairs must be completed in accordance with the requirements of the OM&M plan. [40 CFR 63.1510(g)(3)(xi)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. These requirements apply to the permittee of a scrap dryer/delacquering kiln/decoating kiln using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
   i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]
   ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]
      1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]
      2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]
      3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

d. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]
   i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]
      1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]
      2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]
      3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]
   ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]
   iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]

iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]

e. The control device~~s~~ associated ~~with EU02~~ shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

f. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 03 (EU03) Reverberatory Furnace

Description: The natural gas-fired reverberatory furnace with sidewell melting is used to continuously melt aluminum scrap. This unit is classified as a group 1 furnace melting other than clean charge using reactive flux under 40 CFR 63, Subpart RRR. This group 1 furnace was permanently re-designated as a new emission unit pursuant to 40 CFR 63.1505(k)(6) on November 11, 2011.

Maximum Capacity:	12.5 ton/hr molten Al
Maximum Firing Rate:	38 MMBtu/hr
Control Device:	Lime-Injected Baghouse (shared with EU02)
Construction Commenced:	May 13, 1998

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 1 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
      i. The type of affected source or emission unit (*e.g.*, group 1 furnace). [40 CFR 63.1506(b)(1)]
      ii. The applicable operational standard(s) and control method(s)(work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

   d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
      i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

in the ACGIH Guidelines (incorporated by reference, see 40 CFR 63.14); [40 CFR 63.1506(c)(1)]

ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]

iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]

i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1))]

ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]

iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that: [40 CFR 63.1506(d)(3)]

1) The aluminum production weight, rather than feed/charge weight is measured and recorded for all emission units within a SAPU; and [40 CFR 63.1506(d)(3)(i)]

2) All calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed/charge weight. [40 CFR 63.1506(d)(3)(ii)]

f. The permittee of a group 1 furnace with emissions controlled by a lime-injected fabric filter must: [40 CFR 63.1506(m)]

i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: 40 CFR 63.1506(m)(1)]

1) Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)(i)]

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)(ii)]

3) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(m)(1)(iii)]

ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(2)]

1) Initiate corrective action within 1 hour of any 6-minute average reading of 5 percent or more opacity; and [40 CFR 63.1506(m)(2)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(2)(ii)]

iii. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(m)(3)]

iv. For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(m)(4)]

v. Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]

vi. Operate each sidewell furnace such that: [40 CFR 63.1506(m)(6)]

1) The level of molten metal remains above the top of the passage between the sidewell and hearth during reactive flux injection, unless emissions from both the sidewell and the hearth are included in demonstrating compliance with all applicable emission limits. [40 CFR 63.1506(m)(6)(i)]

2) Reactive flux is added only in the sidewell, unless emissions from both the sidewell and the hearth are included in demonstrating compliance with all applicable emission limits. [40 CFR 63.1506(m)(6)(ii)]

g. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

h. The permittee shall prepare and implement for each group 1 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
   1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
   2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
   1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
   2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]
vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

i. Prior to changing furnace classifications to those not already authorized in **SECTION B**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee of a group 1 furnace must use the limits in 40 CFR 63.1505(i) to determine the emission standards for a SAPU: [40 CFR 63.1505(i)]
   i. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge; [40 CFR 63.1505(i)(1)]
   ii. 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(i)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or, if the furnace is equipped with an add-on air pollution control device, 10 percent of the uncontrolled HCl emissions, by weight. [40 CFR 63.1505(i)(4)]

iv. The permittee must not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(i)(5)]

v. The permittee may determine the emission standards for a SAPU by applying the group 1 furnace limits on the basis of the aluminum production weight in each group 1 furnace, rather than on the basis of feed/charge. [40 CFR 63.1505(i)(6)]

vi. The permittee of a sidewell group 1 furnace that conducts reactive fluxing (except for cover flux) in the hearth, or that conducts reactive fluxing in the sidewell at times when the level of molten metal falls below the top of the passage between the sidewell and the hearth, must comply with the emission limits of 40 CFR 63.1505(i)(1) through (4) on the basis of the combined emissions from the sidewell and the hearth. [40 CFR 63.1505(i)(7)]

Compliance Demonstration Method:

A. *PM and HCl emission limits.* Use Equation 7 to determine compliance with an emission limit for PM or HCl. [40 CFR 63.1513(b)(1)]

$$E=\frac{C\times Q\times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:
E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;
C = Concentration of PM or HCl, g/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
P = Production rate, Mg/hr (ton/hr).

B. *D/F emission limits*. Use Equation 7A to determine compliance with an emission limit for D/F. [40 CFR 63.1513(b)(2)]

$$E=\frac{C\times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:
E = Emission rate of D/F, µg/Mg (gr/ton) of feed;
C = Concentration of D/F, µg/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and
P = Production rate, Mg/hr (ton/hr).

C. *HCl percent reduction standard*. Use Equation 8 to determine compliance with an HCl percent reduction standard. [40 CFR 63.1513(c)]

$$\%R=\frac{L_i-L_o}{L_i}\times 100 \qquad (Eq.\ 8)$$

Where:
%R = Percent reduction of the control device;
L_i = Inlet loading of pollutant, kg/Mg (lb/ton); and

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SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

L_o= Outlet loading of pollutant, kg/Mg (lb/ton)

D. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]
   I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]
   II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

E. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements** and **6. Specific Reporting. Requirements**.

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements** for the baghouse stack. For the flue gas stack, refer to **4. Specific Monitoring Requirements (h)** and **5. Specific Recordkeeping Requirements (c).**

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d. For emissions from a control device or stack, no person shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
   i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
   ii. For process weight rates up to 30 tons/hr: $E=3.59P^{0.62}$
   Where:
   E = the allowable PM emissions rate (lbs/hr)
   P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

e. Refer to **SECTION D** for SAPU calculations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
If the permittee cannot or chooses not to demonstrate compliance with the limits in **2. Emission Limitations (a)** on an individual basis, the permittee shall comply with the SAPU emission limits calculated using the equations in 40 CFR 63.1505(k) referenced in **SECTION D.3.** Initial compliance with the SAPU emission limits during the performance test shall be demonstrated by using the equations in 40 CFR 63.1513(e) referenced in the **Compliance Demonstration Method** for **SECTION D.3.** Continuous compliance with the calculated SAPU emission limits shall be demonstrated by calculating and recording the 3-day rolling 24-hour average emissions for the SAPU using the equations in 40 CFR 63.1510(t).

3. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

b. The permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 9 for visible emission observations. [40 CFR 63.1511(c)(6)]
   vii. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]
   viii. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the permittee must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system. [40 CFR 63.1511(c)(9)]

d. The permittee may use an alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division. [40 CFR 63.1511(g)]
   i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]
   ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]
   iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]
v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. With the prior approval of the Division, a permittee may do combined performance testing of two or more individual affected sources or emission units which are not included in a single existing SAPU or new SAPU, but whose emissions are manifolded to a single control device. Any such performance testing of commonly-ducted units must satisfy the following basic requirements: [40 CFR 63.1511(i)]
   i. All testing must be designed to verify that each affected source or emission unit individually satisfies all emission requirements applicable to that affected source or emission unit; [40 CFR 63.1511(i)(1)]
   ii. All emissions of pollutants subject to a standard must be tested at the outlet from each individual affected source or emission unit while operating under the highest load or capacity reasonably expected to occur, and prior to the point that the emissions are manifolded together with emissions from other affected sources or emission units; [40 CFR 63.1511(i)(2)]
   iii. The combined emissions from all affected sources and emission units which are manifolded to a single emission control device must be tested at the outlet of the emission control device; [40 CFR 63.1511(i)(3)]
   iv. All tests at the outlet of the emission control device must be conducted with all affected sources and emission units whose emissions are manifolded to the control device operating simultaneously under the highest load or capacity reasonably expected to occur; and [40 CFR 63.1511(i)(4)]
   v. For purposes of demonstrating compliance of a commonly-ducted unit with any emission limit for a particular type of pollutant, the emissions of that pollutant by the individual unit shall be presumed to be controlled by the same percentage as total emissions of that pollutant from all commonly-ducted units are controlled at the outlet of the emission control device. [40 CFR 63.1511(i)(5)]

h. The permittee must conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit) or the inlet and the outlet (for the percent reduction standard). [40 CFR 63.1512(d)(1)]

i. The permittee may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the permittee is not required to conduct an emission test for HCl. [40 CFR 63.1512(d)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

j. The permittee of a sidewell group 1 furnace that conducts reactive fluxing (except for cover flux) in the hearth, or that conducts reactive fluxing in the sidewell at times when the level of molten metal falls below the top of the passage between the sidewell and the hearth, must conduct the performance tests required 40 CFR 63.1512(d)(1) to measure emissions from both the sidewell and the hearth. [40 CFR 63.1512(d)(4)]

k. *Secondary aluminum processing unit*. The permittee must conduct performance tests as described in 40 CFR 63.1512(j)(1) through (3). The results of the performance tests are used to establish emission rates in lb/ton of feed/charge for PM, HCl and HF and µg TEQ/Mg of feed/charge for D/F emissions from each emission unit. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in 40 CFR 63.1510(t). A performance test is required for: [40 CFR 63.1512(j)]
   i. Each group 1 furnace that processes scrap other than clean charge to measure emissions of PM and D/F and either: [40 CFR 63.1512(j)(2)]
      1) Emissions of HF and HCl (for determining the emission limit); or [40 CFR 63.1512(j)(2)(i)]
      2) The mass flow rate of HCl at the inlet to and outlet from the control device (for the percent reduction standard). [40 CFR 63.1512(j)(2)(ii)]

l. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

m. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

n. The permittee of a group 1 furnace using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]
   i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests; [40 CFR 63.1512(n)(1)]
   ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]
   iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

o. The permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate: [40 CFR 63.1512(o)]
   i. Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(1)]
   ii. Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(2)]
   iii. Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5: [40 CFR 63.1512(o)(3)]

$$W_t = F_1 W_1 + F_2 W_2 \qquad (Eq.\ 5)$$

   Where,
   W_t = Total chlorine usage, by weight;
   F_1 = Fraction of gaseous or liquid flux that is chlorine;
   W_1 = Weight of reactive flux gas injected;
   F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.,* F = 0.75 for magnesium chloride; and
   W_2 = Weight of solid reactive flux;
   iv. Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and [40 CFR 63.1512(o)(4)]
   v. If a solid reactive flux other than magnesium chloride is used, the permittee must derive the appropriate proportion factor subject to approval by the Division. [40 CFR 63.1512(o)(5)]

p. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]
   i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and [40 CFR 63.1512(p)(1)]
   ii. Record the feeder setting and lime injection rate for the 3 test runs. If the feed rate setting varies during the runs, determine and record the average feed rate and lime injection rate from the 3 runs. [40 CFR 63.1512(p)(2)]

q. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA–625/3–89–016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

r. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU03,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (h)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

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c. The permittee must inspect the labels for each group 1 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]
   i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the Division for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]
   ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

f. These requirements apply to the permittee of a group 1 furnace (with or without add-on air pollution control devices). The permittee must: [40 CFR 63.1510(j)]
   i. Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit. [40 CFR 63.1510(j)(1)]
      1) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. [40 CFR 63.1510(j)(1)(i)]
      2) The accuracy of the weight measurement device must be ±1 percent of the weight of the reactive component of the flux being measured. The permittee may apply to the Division for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards. [40 CFR 63.1510(j)(1)(ii)]
      3) The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(j)(1)(iii)]
   ii. Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(2)]
   iii. Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of: [40 CFR 63.1510(j)(3)]
      1) Gaseous or liquid reactive flux other than chlorine; and [40 CFR 63.1510(j)(3)(i)]
      2) Solid reactive flux. [40 CFR 63.1510(j)(3)(ii)]
   iv. Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). For solid flux that is added intermittently, record the amount added for each operating cycle or time period used in the performance test using the procedures in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(4)]
   v. The permittee of a group 1 furnace or in-line fluxer performing reactive fluxing may apply to the Administrator for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed/charge for each operating cycle or time period used in the performance test. An alternative monitoring method will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis. [40 CFR 63.1510(j)(5)]

g. These requirements apply to the permittee of a sidewell group 1 furnace using add-on air pollution control devices. The permittee must: [40 CFR 63.1510(n)]
   i. Record in an operating log for each tap of a sidewell furnace that the level of molten metal was above the top of the passage between the sidewell and hearth during reactive flux injection, unless the furnace hearth was also equipped with an add-on control

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

device. If visual inspection of the molten metal level is not possible, the molten metal level must be determined using physical measurement methods. [40 CFR 63.1510(n)(1)]

ii. Submit a certification of compliance with the operational standards in 40 CFR 63.1506(m)(6) for each 6-month reporting period. Each certification must contain the information in 40 CFR 63.1516(b)(2)(iii). [40 CFR 63.1510(n)(2)]

h. For the Flue Gas Stack only, the permittee shall perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than two times a day, while the affected facility is operating, during daylight hours, with at least one observation during the tapping process. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

i. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

j. Refer to **SECTION D.3.** for SAPU requirements.

k. Refer to **SECTION F** for general monitoring requirements.

5. **Specific Recordkeeping Requirements**:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]

2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]

ii. For each group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]

iii. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]

1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]

2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

iv. For each group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken. [40 CFR 63.1517(b)(5)]

v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]

vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]

vii. Operating logs for each group 1 sidewell furnace with add-on air pollution control devices documenting conformance with operating standards for maintaining the level

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

of molten metal above the top of the passage between the sidewell and hearth during reactive flux injection and for adding reactive flux only to the sidewell or a furnace hearth equipped with a control device for PM, HCl, and D/F emissions. [40 CFR 63.1517(b)(10)]

viii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]

ix. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]

x. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

xi. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517(b)(16)]
   1) OM&M plan; and [40 CFR 63.1517(b)(16)(ii)]
   2) Site-specific secondary aluminum processing unit emission plan (as applicable). [40 CFR 63.1517(b)(16)(iii)]

xii. For each secondary aluminum processing unit, records of total charge weight, or if the permittee chooses to comply on the basis of aluminum production, total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions. [40 CFR 63.1517(b)(17)]

xiii. For any failure to meet an applicable standard, the permittee shall maintain the following records: [40 CFR 63.1517(b)(18)]
   1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
   2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xiv. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee must comply with 40 CFR 63.1517(b)(19)(i) or (ii). [40 CFR 63.1517(b)(19)]
   1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee must submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
      A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(i)(A)]
      B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
      C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) To demonstrate compliance based on performance tests, the permittee must maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
   A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
   B. The measured emission in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii)(B)]
   C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and [40 CFR 63.1517(b)(19)(ii)(C)]
   D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

c. For the Flue Gas stack, the permittee shall retain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (h)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]

Commented [EM9]: Please add to directly connect for only the Flue Gas stack.

d. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

e. Refer to **SECTION D.3.** for SAPU requirements.

f. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. Within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the permittee shall include the following information: [40 CFR 63.1510(s)(1)]
   i. The identification of each emission unit in the SAPU; [40 CFR 63.1510(s)(1)(i)]
   ii. The specific control technology or pollution prevention measure to be used for each emission unit in the SAPU and the date of its installation or application; [40 CFR 63.1510(s)(1)(ii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. The emission limit calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit; [40 CFR 63.1510(s)(1)(iii)]
iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63, Subpart RRR; and [40 CFR 63.1510(s)(1)(iv)]
v. The monitoring requirements applicable to each emission unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t). [40 CFR 63.1510(s)(1)(v)]

c. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions: [40 CFR 63.1510(s)(2)]
   i. Any averaging among emissions of differing pollutants; [40 CFR 63.1510(s)(2)(i)]
   ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit; [40 CFR 63.1510(s)(2)(ii)]
   iii. The inclusion of any emission unit while it is shutdown; or [40 CFR 63.1510(s)(2)(iii)]
   iv. The inclusion of any periods of startup or shutdown in emission calculations. [40 CFR 63.1510(s)(2)(iv)]

d. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the permittee shall submit a request to the Division containing the information required by 40 CFR 63.1510(s)(1), above, and obtain approval of the Division prior to implementing any revisions. [40 CFR 63.1510(s)(3)]

e. Except as provided in 40 CFR 63.1510(u), the permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit (SAPU) on a daily basis. [40 CFR 63.1510(t)]

f. As an alternative to the procedures of 40 CFR 63.1510(t), the permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit (SAPU) is in compliance with the applicable emission limits for the emission unit. [40 CFR 63.1510(u)]

g. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

~~h. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]~~

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

~~i. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]~~

Commented [EM10]: Refer to earlier comments for same SMACT conditions.

~~j.~~h. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
   3) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
   4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include each of these certifications, as applicable: [40 CFR 63.1516(b)(2)]
   1) For each sidewell group 1 furnace with add-on air pollution control devices: "Each furnace was operated such that the level of molten metal remained above the top of the passage between the sidewell and hearth during reactive fluxing, and reactive flux, except for cover flux, was added only to the sidewell or to a furnace hearth equipped with an add-on air pollution control device for PM, HCl, and D/F emissions during this reporting period." [40 CFR 63.1516(b)(2)(iii)]
   2) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no fee/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee shall submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]
   1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

~~k.~~i. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

~~ii.~~

~~l.~~j. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by the permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

~~m.~~k. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR
63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

~~n.~~l. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

b. These requirements apply to the permittee of a group 1 furnace using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]
   1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]
   2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]
   3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

c. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]
   i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]
      1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]
      2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]
      3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]
   ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]
   iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]
   iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]

d. The control device~~s~~ associated ~~with EU03~~ shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

e. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 04 (EU04) Rotary Furnace #5

Description: The custom-built, natural gas-fired, rotary aluminum furnace melts scrap in batches. This unit is classified as an existing Group 1 furnace melting other than clean charge using reactive flux under 40 CFR 63, Subpart RRR. ~~This is the only unit in the only existing SAPU at the facility.~~

Maximum Capacity:	100.8 tons of aluminum/day
Maximum Firing Rate:	164 MMBtu/hr
Control Device:	Lime-Injected Baghouse
Construction Commenced:	1990; modified 2024

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations

401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1500. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 1 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]

Commented [EM11]: Please move this unit back into Section B from Section H.

Commented [EM12]: Real Alloy does not rely on the SAPU option. Please remove for consistency with other EU descriptions.

Commented [EM13]: Please update to reflect the burner replacement.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

i. The type of affected source or emission unit (*e.g.*, group 1 furnace). [40 CFR 63.1506(b)(1)]
ii. The applicable operational standard(s) and control method(s)(work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
   i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, see 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
   ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
   iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]
   i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1)]
   ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]
   iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that: [40 CFR 63.1506(d)(3)]
      1) The aluminum production weight, rather than feed/charge weight is measured and recorded for all emission units within a SAPU; and [40 CFR 63.1506(d)(3)(i)]
      2) All calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed/charge weight. [40 CFR 63.1506(d)(3)(ii)]

f. The permittee of a group 1 furnace with emissions controlled by a lime-injected fabric filter must: [40 CFR 63.1506(m)]
   i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(1)]
      1) Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)(i)]
      2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)(ii)]
      3) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(m)(1)(iii)]

ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(2)]
   1) Initiate corrective action within 1 hour of any 6-minute average reading of 5 percent or more opacity; and [40 CFR 63.1506(m)(2)(i)]
   2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(2)(ii)]

iii. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(m)(3)]

iv. For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(m)(4)]

v. Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]

g. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

h. The permittee shall prepare and implement for each group 1 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
    1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
    2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
    1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
    2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]
vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

i. With the prior approval of the Division, the permittee may redesignate any existing group 1 furnace at a secondary aluminum production facility as a new emission unit. Any emission unit so redesignated may thereafter be included in a new SAPU at that facility. Any such redesignation will be solely for the purpose of 40 CFR 63, Subpart RRR and will be irreversible. [40 CFR 63.1505(k)(6)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

j. Prior to changing furnace classifications to those not already authorized in **SECTION B~~H~~**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

~~k. The permittee shall not operate EU04 after EU18 begins operating.~~

Commented [EM14]: Please update with this being moved back up into Section B.

Commented [EM15]: Please remove as EU18 is no longer planned for replacing EU04.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not allow the emissions ~~from EU04~~ to exceed the following limits: [40 CFR 63.1505(i)]

Commented [EM16]: Please remove as this section is only for EU04.

i. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge; [40 CFR 63.1505(i)(1)]
ii. 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(i)(3)]
iii. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or, if the furnace is equipped with an add-on air pollution control device, 10 percent of the uncontrolled HCl emissions, by weight. [40 CFR 63.1505(i)(4)]
iv. The permittee shall not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(i)(5)]
v. The permittee may apply the group 1 furnace limits on the basis of the aluminum production weight in the group 1 furnace, rather than on the basis of feed/charge. [40 CFR 63.1505(i)(6)]

Compliance Demonstration Method:

A. *PM and HCl emission limits.* Use Equation 7 to determine compliance with an emission limit for PM or HCl. [40 CFR 63.1513(b)(1)]

$$E=\frac{C\times Q\times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:
E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;
C = Concentration of PM or HCl, g/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
P = Production rate, Mg/hr (ton/hr).

B. *D/F emission limits*. Use Equation 7A to determine compliance with an emission limit for D/F. [40 CFR 63.1513(b)(2)]

$$E=\frac{C\times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:
E = Emission rate of D/F, µg/Mg (gr/ton) of feed;
C = Concentration of D/F, µg/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and
P = Production rate, Mg/hr (ton/hr).

C. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]

I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]

II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

D. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements** and **6. Specific Reporting. Requirements**.

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

d. For emissions from a control device or stack, no person shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr

ii. For process weight rates up to 30 tons/hr: $E=3.59P^{0.62}$

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

3. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
   v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
   vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]
   vii. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the permittee must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system. [40 CFR 63.1511(c)(9)]

Commented [EM17]: Please add for consistency with other units.

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division. [40 CFR 63.1511(g)]
   i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]
   ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]
   iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]
   iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]
   v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit) or the inlet and the outlet (for the percent reduction standard). [40 CFR 63.1512(d)(1)]

h. The permittee may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the permittee is not required to conduct an emission test for HCl. [40 CFR 63.1512(d)(3)]

i. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

j. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

k. The permittee of a group 1 furnace using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]
   i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests; [40 CFR 63.1512(n)(1)]
   ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]
   iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

l. The permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate: [40 CFR 63.1512(o)]
   i. Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(1)]
   ii. Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(2)]
   iii. Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5: [40 CFR 63.1512(o)(3)]

$$W_t = F_1 W_1 + F_2 W_2 \qquad (Eq.\ 5)$$

   Where,
   W_t = Total chlorine usage, by weight;
   F_1 = Fraction of gaseous or liquid flux that is chlorine;
   W_1 = Weight of reactive flux gas injected;
   F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.,* F = 0.75 for magnesium chloride; and
   W_2 = Weight of solid reactive flux;
   iv. Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and [40 CFR 63.1512(o)(4)]
   v. If a solid reactive flux other than magnesium chloride is used, the permittee must derive the appropriate proportion factor subject to approval by the Division. [40 CFR 63.1512(o)(5)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

m. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]
   i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and [40 CFR 63.1512(p)(1)]
   ii. Record the feeder setting for the 3 test runs. If the feed rate setting and lime injection rates vary between the runs, determine and record the average feed rate and lime injection rate from the 3 runs. [40 CFR 63.1512(p)(2)]

n. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA–625/3–89–016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

o. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (h)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee must inspect the labels for each group 1 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]

i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the permitting agency for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]

ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

f. These requirements apply to the permittee of a group 1 furnace (with or without add-on air pollution control devices). The permittee must: [40 CFR 63.1510(j)]

i. Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit. [40 CFR 63.1510(j)(1)]

1) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. [40 CFR 63.1510(j)(1)(i)]

2) The accuracy of the weight measurement device must be ±1 percent of the weight of the reactive component of the flux being measured. The permittee may apply to the Division for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards. [40 CFR 63.1510(j)(1)(ii)]

3) The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(j)(1)(iii)]

ii. Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(2)]

iii. Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of: [40 CFR 63.1510(j)(3)]

1) Gaseous or liquid reactive flux other than chlorine; and [40 CFR 63.1510(j)(3)(i)]

2) Solid reactive flux. [40 CFR 63.1510(j)(3)(ii)]

iv. Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(4)]

v. The permittee of a group 1 furnace or in-line fluxer performing reactive fluxing may apply to the Division for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed/charge for each operating cycle or time period used in the performance test. An alternative monitoring method will not be approved

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis. [40 CFR 63.1510(j)(5)]

g. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

h. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
   ii. For each scrap dryer/delacquering kiln/decoating kiln and group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]
   iii. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]
2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

iv. For each group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken. [40 CFR 63.1517(b)(5)]
v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]
vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]
viii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]
ix. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]
x. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517(b)(16)]
    1) OM&M plan; and [40 CFR 63.1517(b)(16)(ii)]
    2) Site-specific secondary aluminum processing unit emission plan (as applicable). [40 CFR 63.1517(b)(16)(iii)]
xi. For any failure to meet an applicable standard, the permittee must maintain the following records; [40 CFR 63.1517(b)(18)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xii. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee must comply with 40 CFR 63.1517(b)(19)(i) or (ii). [40 CFR 63.1517(b)(19)]
1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee must submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
A. The date and time of each startup ad shutdown; [40 CFR 63.1517(b)(19)(i)(A)]
B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]
2) To demonstrate compliance based on performance tests, the permittee must maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
B. The measured emission in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii(B)]
C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and [40 CFR 63.1517(b)(19)(ii)(C)]
D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

c. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
i. The monthly throughput in tons; and
ii. The monthly natural gas usage in MMscf.

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. Within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the permittee shall include the following information: [40 CFR 63.1510(s)(1)]
   i. The identification of each emission unit in the SAPU; [40 CFR 63.1510(s)(1)(i)]
   ii. The specific control technology or pollution prevention measure to be used for each emission unit in the SAPU and the date of its installation or application; [40 CFR 63.1510(s)(1)(ii)]
   iii. The emission limit calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit; [40 CFR 63.1510(s)(1)(iii)]
   iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63, Subpart RRR; and [40 CFR 63.1510(s)(1)(iv)]
   v. The monitoring requirements applicable to each emission unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t). [40 CFR 63.1510(s)(1)(v)]

c. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions: [40 CFR 63.1510(s)(2)]
   i. Any averaging among emissions of differing pollutants; [40 CFR 63.1510(s)(2)(i)]
   ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit; [40 CFR 63.1510(s)(2)(ii)]
   iii. The inclusion of any emission unit while it is shutdown; or [40 CFR 63.1510(s)(2)(iii)]
   iv. The inclusion of any periods of startup or shutdown in emission calculations. [40 CFR 63.1510(s)(2)(iv)]

d. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the permittee shall submit a request to the Division containing the information required by 40 CFR 63.1510(s)(1), above, and obtain approval of the Division prior to implementing any revisions. [40 CFR 63.1510(s)(3)]

e. Except as provided in 40 CFR 63.1510(u), the permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit (SAPU) on a daily basis. [40 CFR 63.1510(t)]

f. As an alternative to the procedures of 40 CFR 63.1510(t), the permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit (SAPU) is in compliance with the applicable emission limits for the emission unit. [40 CFR 63.1510(u)]

g. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

~~h. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]~~

~~i. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]~~

~~j.~~h. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
   3) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
   4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
   1) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no feed/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]

Commented [EM18]: Refer to earlier comments for same SMACT conditions.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

~~k.~~i. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

~~l.~~j. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

~~m.~~k. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR
63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

~~n.~~l. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

b. These requirements apply to the permittee of a group 1 furnace using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]
   1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]
   2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]
   3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

c. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]
   i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]
      1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]
      2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]
      3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]
   ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]
   iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]
   iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]

d. The control device associated shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

e. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 06 (EU06) Salt Cake Processing Facility (SCPF)

Description: Salt cake is processed through a series of screens and crushers to facilitate the recovery of small amounts of aluminum left in the salt cake. All of the equipment is electrically driven. Baghouse filters control particulate emissions in four different areas of the plant: the receiving building, primary processing, secondary processing and the reject building.

Maximum Capacity: 40 tons of salt cake/hr
Control Devices: Three Baghouses
Construction Commenced: 1995

APPLICABLE REGULATIONS:
401 KAR 53:010, Ambient air quality standards
401 KAR 59:010, New process operations
40 CFR 64, Compliance Assurance Monitoring (CAM), for PM.

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   a. The associated control device(s) shall be operated at all times when the salt cake processing facility is operating. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      The permittee shall report any time the unit is operated without the control device(s). The permittee must calculate the excess emissions that occurred during an outage and report the deviation in accordance with 401 KAR 50:055. Refer to **5. Specific Recordkeeping Requirements.** Refer to **SECTION E**.

   b. The permittee shall not exceed 219,000 tons of salt cake processed/yr based on a rolling 12-month average. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      Refer to **4. Specific Monitoring Requirements.**

2. **Emission Limitations:**
   a. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

      Compliance Demonstration Method:
      Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

   b. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$
iii. For process weight rates in excess of 30.00 tons/hr: $E=17.31P^{0.16}$

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
The permittee shall demonstrate compliance each month by comparing the allowable rate to the actual rate calculated using the following equation:

$$E_{PMi} = \frac{P_i \times EF_{PM}}{h_i} \times (1 - \frac{CE}{100})$$

Where:
i = month;
E_{PMi} = the actual average hourly particulate emissions rate for month i (lb/hr);
P_i = the actual process weight rate for month i (tons/month);
EF_{PM} = the overall uncontrolled KYEIS particulate emission factor (lb/unit);
h_i = the actual total hours of operation for month i (hrs/month); and
CE = the overall control efficiency (%).

c. The permittee shall ensure that odors are not detected beyond the property line in accordance with the following standard: [401 KAR 53:010, Section 4, Appendix A]

At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor.

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the odor standard by taking reasonable precautions to prevent ammonia gasses and their odors from migrating beyond the property line. Precautions shall include, but are not limited to, minimizing the process byproducts' exposure to moisture.

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:
a. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
i. The monthly hours of operation for EU06;
ii. The monthly and 12-month rolling processing rate of salt cake in tons; and
iii. The daily pressure drop across the baghouse.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee shall perform a qualitative visual observation of the opacity of emissions from each baghouse stack no less frequently than once every 7 calendar days while the affected facility is operating. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

c. Refer to **Appendix A** for CAM requirements pursuant to 40 CFR 64.

d. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly hours of operation for EU06;
   ii. The monthly and 12-month rolling processing rate of salt cake in tons;
   iii. The daily pressure drop across each baghouse;
   iv. The hourly PM emission rate, as calculated for **2. Emission Limitations**, in lb/hr; and
   v. The list of all individuals at the facility who are certified Visible Emissions Evaluators and the date of their certification.

b. The permittee shall maintain records of control equipment inspections that includes the date each inspection was performed and whether the baghouse was in proper working condition. [401 KAR 52:020, Section 10]

c. The permittee shall maintain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (b)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]

d. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 CFR 64.8 and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)(1)]

e. Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. [40 CFR 64.9(b)(2)]

f. Refer to **SECTION F** for general recordkeeping requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

a. On and after the date specified in 40 CFR 64.7(a) by which the permittee must use monitoring that meets the requirements of 40 CFR 64, the permittee shall submit monitoring reports to the Division in accordance with **SECTION F**. [40 CFR 64.9(a)(1)]

b. A report for monitoring under 40 CFR 64 shall include, at a minimum, the information required under 40 CFR 70.6(a)(3)(iii) and the following information, as applicable: [40 CFR 64.9(a)(2)]
   i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; [40 CFR 64.9(a)(2)(i)]
   ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and [40 CFR 64.9(a)(2)(ii)]
   iii. A description of the actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [40 CFR 64.9(a)(2)(iii)]
   iv. The threshold for requiring the implementation of a QIP is an accumulation of exceedances or excursions exceeding 5 percent duration of a pollutant-specific emissions unit's operating time for a semiannual reporting period. [40 CFR 64.8(a)]

c. Refer to **Appendix A** for reporting requirements under 40 CFR 64.

d. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Operating Conditions:

a. The permittee shall install, calibrate, maintain, and operate pressure drop monitoring devices to continuously monitor the differential pressure across each baghouse to ensure that pressure does not drop outside the pressure drop range documented by the manufacturer’s specifications or the pressure drop range determined during the most recent performance test. Personnel will monitor the differential pressure reading across each baghouse at least once per day during operation. [401 KAR 52:020, Section 10]

b. The control equipment shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer’s specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 07 (EU07) Salt Cake Cooling (Mud Room)

Description: Salt cake and dross are periodically removed from reverberatory and rotary furnaces and delivered to EU07 and cooled. All equipment is electrically driven.
Maximum Capacity: 25 tons/hr
Control Device: Baghouse
Construction Commenced: 1995

APPLICABLE REGULATIONS:
401 KAR 53:010, Ambient air quality standards
401 KAR 59:010, New process operations

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   The associated control device shall be operated at all times when EU07 is operating. [To preclude 401 KAR 51:017]

   Compliance Demonstration Method:
   The permittee shall report any time the unit is operated without the control device(s). The permittee must calculate the excess emissions that occurred during an outage and report the deviation in accordance with 401 KAR 50:055. Refer to **5. Specific Recordkeeping Requirements.** Refer to **SECTION E**.

2. **Emission Limitations:**
   a. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

      Compliance Demonstration Method:
      Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

   b. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
      i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
      ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$
      Where:
      E = the allowable PM emissions rate (lbs/hr)
      P = the process weight rate (tons/hr)

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
The permittee shall demonstrate compliance each month by comparing the allowable rate to the actual rate calculated using the following equation:

$$E_{PMi} = \frac{P_i \times EF_{PM}}{h_i} \times (1 - \frac{CE}{100})$$

Where:
i = month;
E_{PMi} = the actual average hourly particulate emissions rate for month i (lb/hr);
P_i = the actual process weight rate for month i (tons/month);
EF_{PM} = the overall uncontrolled KYEIS particulate emission factor (lb/unit);
h_i = the actual total hours of operation for month i (hrs/month); and
CE = the overall control efficiency (%).

c. The permittee shall ensure that odors are not detected beyond the property line in accordance with the following standard: [401 KAR 53:010, Section 4, Appendix A]

At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor.

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the odor standard by taking reasonable precautions to prevent ammonia gasses and their odors from migrating beyond the property line. Precautions shall include, but are not limited to, minimizing the process byproducts' exposure to moisture.

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:
a. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly hours of operation for EU07;
   ii. The monthly processing rate of salt cake in tons; and
   iii. The daily pressure drop across the baghouse.

b. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than once every 7 calendar days while the affected facility is operating. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

c. Refer to **SECTION F** for general monitoring requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly hours of operation for EU07;
   ii. The monthly processing rate of salt cake in tons,
   iii. The daily pressure drop across the baghouse;
   iv. The hourly PM emission rate, as calculated for **2. Emission Limitations**, in lb/hr; and
   v. The list of all individuals at the facility who are certified Visible Emissions Evaluators and the date of their certification.

b. The permittee shall maintain records of control equipment inspections that includes the date each inspection was performed and whether the baghouse was in proper working condition. [401 KAR 52:020, Section 10]

c. The permittee shall retain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (b)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Operating Conditions:

a. The permittee shall install, calibrate, maintain, and operate a pressure drop monitoring device to continuously monitor the differential pressure across the baghouse to ensure that pressure does not drop outside the pressure drop range documented by the manufacturer's specifications or the pressure drop range determined during the most recent performance test. Personnel will monitor the differential pressure reading across the baghouse at least once per day during operation. [401 KAR 52:020, Section 10]

b. The control equipment shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 08 (EU08) Landfill Area

Description: An onsite residual landfill provides a disposal area for baghouse dust, aluminum processing waste and secondary aluminum smelter slag. Salt cake is disposed in the area once it has been processed and the remaining aluminum has been recovered. Fugitive emissions, including ammonia and particulate from dumping and haul roads, are possible. Note that waste may also come from affiliated plants in other states.

Maximum Capacity: 32.5 ton/hr waste dumped; 10065 VMT/yr haul roads
Control Device: Water suppression
Construction Commenced: 1995

APPLICABLE REGULATIONS:
401 KAR 53:010, Ambient air quality
401 KAR 63:010, Fugitive emissions

1. **Operating Limitations:**
   a. The permittee shall not cause, suffer, or allow any material to be handled, processed, transported, or stored; a building or its appurtenances to be constructed, altered, repaired, or demolished; or a road to be used without taking reasonable precaution to prevent particulate matter from becoming airborne. Reasonable precautions shall include, as applicable: [401 KAR 63:010, Section 3(1)]
      i. Use, if possible, of water or suitable chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land; [401 KAR 63:010, Section 3(1)(a)]
      ii. Application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; [401 KAR 63:010, Section 3(1)(b)]
      iii. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling. Adequate containment methods shall be employed during sandblasting or other similar operations. [401 KAR 63:010, Section 3(1)(c)]
      iv. Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne; [401 KAR 63:010, Section 3(1)(d)]
      v. The maintenance of paved roadways in a clean condition; or [401 KAR 63:010, Section 3(1)(e)]
      vi. The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water. [401 KAR 63:010, Section 3(1)(f)]

   b. If dust, fumes, gases, mist, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any administrative regulation, the secretary may, based on the cause, type, or amount of a fugitive emission, order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas borne material leaving the building or equipment are treated by removal or

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

destruction of air contaminants before discharge to the open air. [401 KAR 63:010, Section 3(3)]

c. At all times while in motion, open bodied trucks, operating outside company property, transporting materials likely to become airborne shall be covered. [401 KAR 63:010, Section 4(1)]

d. A person shall not cause, suffer, or allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. [401 KAR 63:010, Section 4(3)]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

2. Emission Limitations:

a. A person shall not cause, suffer, or allow visible fugitive dust emissions beyond the lot line of the property on which the emissions originate, as determined by Reference Method 22 of Appendix A in 40 C.F.R. Part 60, for: [401 KAR 63:010, Section 3(2)]
   i. More than five (5) minutes of emission time during any sixty (60) minute observation period; or [401 KAR 63:010, Section 3(2)(a)]
   ii. More than twenty (20) minutes of emission time during any twenty-four (24) hour period. [401 KAR 63:010, Section 3(2)(b)]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

b. The permittee shall ensure that odors are not detected beyond the property line in accordance with the following standard: [401 KAR 53:010, Section 4, Appendix A]

At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor.

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the odor standard by taking reasonable precautions to prevent ammonia gasses and their odors from migrating beyond the property line. Precautions shall include, but are not limited to, minimizing the waste exposure to moisture.

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

a. The permittee shall monitor the reasonable precautions taken to prevent particulate matter from becoming airborne on a daily basis. [401 KAR 52:020, Section 10]

b. If fugitive dust emissions beyond the lot line of the property are observed, the permittee shall conduct Reference Method 22 (visual determination of fugitive emissions) observations per Appendix A of 40 C.F.R. Part 60. In lieu of conducting U.S. EPA Reference Method 22, the permittee shall immediately perform a corrective action which results in no visible fugitive dust emissions beyond the lot line of the property. [401 KAR 52:020, Section 10]

c. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain a log of the reasonable precautions taken to prevent particulate matter from becoming airborne, on a daily basis. Notation of the operating status, down-time, or relevant weather conditions are acceptable for entry to the log. [401 KAR 52:020, Section 10]

b. The permittee shall maintain a log of the following: [401 KAR 52:020, Section 10]
   i. Any Reference Method 22 performed and field records identified in Reference Method 22.
   ii. Any corrective action taken and the results.

c. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Operating Conditions:

Refer to **SECTION E.**

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 13 (EU13) **Rotary Furnace #8 &**
Emission Unit 14 (EU14) **Rotary Furnace #9**

Description:
Each natural gas-fired rotary furnace will process aluminum scrap, concentrate from the Salt Cake Processing Facility (EU06), and dross. These units are classified as new Group 1 furnaces melting other than clean charge using reactive flux under 40 CFR 63, Subpart RRR.
Maximum Capacity: 8.22 ton/hr molten Al, each
Maximum Firing Rate: 24 MMBtu/hr, each
Control Device: Lime-Injected Baghouses
Construction Commenced: 2011; EU13 modified in 2024

Commented [EM19]: Please update to align with the distinction between RF5 being existing and Reverb being re-designated new.

Commented [EM20]: Please add due to the tilting capacity change for Rotary Furnace #8 (EU13).

APPLICABLE REGULATIONS:
401 KAR 51:017, Prevention of significant deterioration of air quality, for CO
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality, for PM, PM_{10}, $PM_{2.5}$, & VOC

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 1 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
      i. The type of affected source or emission unit (*e.g.*, group 1 furnace). [40 CFR 63.1506(b)(1)]
      ii. The applicable operational standard(s) and control method(s)(work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
   i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, see 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
   ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
   iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]
   i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1)]
   ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]
   iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that: [40 CFR 63.1506(d)(3)]
      1) The aluminum production weight, rather than feed/charge weight is measured and recorded for all emission units within a SAPU; and [40 CFR 63.1506(d)(3)(i)]
      2) All calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed/charge weight. [40 CFR 63.1506(d)(3)(ii)]

f. The permittee of a group 1 furnace with emissions controlled by a lime-injected fabric filter must: [40 CFR 63.1506(m)]
   i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(1)]
      1) Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)(i)]
      2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)(ii)]
      3) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(m)(1)(iii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(2)]
   1) Initiate corrective action within 1 hour of any 6-minute average reading of 5 percent or more opacity; and [40 CFR 63.1506(m)(2)(i)]
   2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(2)(ii)]

iii. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(m)(3)]

iv. For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(m)(4)]

v. Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]

g. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

h. The permittee shall prepare and implement for each group 1 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]
   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]
   ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
   iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
   1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
   2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]

v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]

vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
   1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
   2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

i. Prior to changing furnace classifications to those not already authorized in **SECTION B**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

j. The permittee shall not exceed 6,000 tons/month of raw material charged to each furnace, averaged across both furnaces. [To preclude the applicability of 401 KAR 51:017]

Compliance Demonstration Method:
The permittee shall add the monthly throughput for the furnaces together, divide the sum by the number of active furnaces, and compare the result to the limit. Refer to **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee shall not exceed the following CO limits: [401 KAR 51:017]
   i. 3.54 lb of CO/ton of Al from each furnace; and
   ii. 128.73 ton of CO/yr from each furnace on a 12-month rolling basis (including fugitive emissions) averaged across both furnaces.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

A. After each performance test, the permittee shall compare the CO emissions per ton of throughput established through the test to the limit for each type of particulate.

B. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of CO each month for each active furnace using the following equations and compare the result to the limit:

$$E_{CO_x} = S_{D_x} + F_{D_x} + S_{O_x} + F_{O_x}$$

$$M_{CO} = \frac{\sum_{x=1}^{2} E_{CO_x}}{A}$$

$$T_{CO} = \sum_{n=1}^{12} M_{CO_n}$$

Where:

x = Furnace (either EU13 or EU14);

E_{CO_x} = The monthly CO emissions from furnace *x* in tons of CO/month

S_{D_x} = Stack CO emissions from furnace *x* due to dross, concentrate, and salt cake charged in tons/month;

F_{D_x} = Fugitive CO emissions from furnace *x* due to dross, concentrate, and salt cake charged in tons/month;

S_{O_x} = Stack CO emissions from furnace *x* due to all other material charged in tons/month;

F_{O_x} = Fugitive CO emissions from furnace *x* due to all other material charged in tons/month;

A = Total number of active furnaces during the month (1 or 2);

M_{CO} = Total CO emissions for the month for each furnace, averaged between the furnaces, in tons of CO/month;

n = month;

M_{CO_n} = Total CO average emissions for month *n* for each furnace, in tons of CO/month;

T_{CO} = Total 12-month rolling CO emissions for each furnace, in tons/yr.

Note: To calculate fugitive emissions, the permittee shall multiply the stack emissions by 0.01010, the ratio of fugitive emissions to stack emissions.

C. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

b. The permittee shall not exceed 19.38 tons of VOC/yr from each furnace on a 12-month rolling basis, averaged across both furnaces. [To preclude the applicability of 401 KAR 51:017]

Compliance Demonstration Method:

A. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of VOC each month for each active furnace using the following equations and compare the result to the limit:

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

$$E_{VOC_x} = S_{D_x} + F_{D_x} + S_{O_x} + F_{O_x}$$

$$M_{VOC} = \frac{\sum_{x=1}^{2} E_{VOC_x}}{A}$$

$$T_{VOC} = \sum_{n=1}^{12} M_{VOC_n}$$

Where:

x = Furnace (either EU13 or EU14);
E_{VOC_x} = The monthly VOC emissions from furnace x in tons of VOC/month
S_{D_x} = Stack VOC emissions from furnace x due to dross, concentrate, and salt cake charged in tons/month;
F_{D_x} = Fugitive VOC emissions from furnace x due to dross, concentrate, and salt cake charged in tons/month;
S_{O_x} = Stack VOC emissions from furnace x due to all other material charged in tons/month;
F_{O_x} = Fugitive VOC emissions from furnace x due to all other material charged in tons/month;
A = Total number of active furnaces during the month;
M_{VOC} = Total VOC emissions for the month for each furnace, averaged between the furnaces, in tons of VOC/month;
n = month;
M_{VOC_n} = Total VOC average emissions for month n for each furnace, in tons of VOC/month;
T_{VOC} = Total 12-month rolling VOC emissions for each furnace, in tons/yr.
Note: To calculate fugitive emissions, the permittee shall multiply the stack emissions by 0.01010, the ratio of fugitive emissions to stack emissions.

B. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

c. The permittee shall not exceed the following PM, PM_{10} and $PM_{2.5}$ limits from each furnace: [To preclude the applicability of 401 KAR 51:017]*
   i. For PM: ~~0.13 lb/ton, and~~ 7.05 tons/yr from each furnace on a 12-month rolling basis averaged across both furnaces;
   ii. For PM_{10}: ~~0.12 lb/ton, and~~ 6.495 tons/yr from each furnace on a 12-month rolling basis averaged across both furnaces; and
   iii. For $PM_{2.5}$: ~~0.068 lb/ton, and~~ 3.69 tons/yr from each furnace on a 12-month rolling basis averaged across both furnaces.

   *Note that listed limits for lb/ton from each furnace are for stack emissions only. Limits listed for tons/yr from each furnace include fugitive emissions.

Compliance Demonstration Method:

~~A. After each performance test, the permittee shall compare the PM, PM_{10} and $PM_{2.5}$ emissions per ton of throughput established through the test to the limit for each type of particulate.~~

Commented [EM21]: As these limits are for preclusion of 401 KAR 51:017, it is atypical to set limits for direct demonstration by a performance test. The above VOC limit with similar basis does not have this requirement. Real Alloy requests removal of the lb/ton limits and the compliance demonstration method associated. Instead, Real Alloy will develop lb/ton emission factors for monthly and 12-month rolling emissions tracking against the tpy limits.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

~~B.~~A. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of PM, PM_{10} and $PM_{2.5}$ each month for each active furnace using the following equations and compare the result to the limit:

$$E_{PM_x} = S_{D_x} + F_{D_x} + S_{O_x} + F_{O_x}$$

$$M_{PM} = \frac{\sum_{x=1}^{2} E_{PM_x}}{12}$$

$$T_{PM} = \sum_{n=1} M_{PM_n}$$

Where:

x = Furnace (either EU13 or EU14);

E_{PM_x} = The monthly PM, PM_{10} or $PM_{2.5}$ emissions from furnace x in tons of PM, PM_{10} or $PM_{2.5}$/month

S_{D_x} = Stack PM, PM_{10} or $PM_{2.5}$ emissions from furnace x due to dross, concentrate, and salt cake charged in tons/month;

F_{D_x} = Fugitive PM, PM_{10} or $PM_{2.5}$ emissions from furnace x due to dross, concentrate, and salt cake charged in tons/month;

S_{O_x} = Stack PM, PM_{10} or $PM_{2.5}$ emissions from furnace x due to all other material charged in tons/month;

F_{O_x} = Fugitive PM, PM_{10} or $PM_{2.5}$ emissions from furnace x due to all other material charged in tons/month;

A = Total number of active furnaces during the month;

M_{PM} = Total PM, PM_{10} or $PM_{2.5}$ emissions for the month for each furnace, averaged between the furnaces, in tons of PM, PM_{10} or $PM_{2.5}$/month;

n = month;

M_{PM_n} = Total PM, PM_{10} or $PM_{2.5}$ average emissions for month n for each furnace, in tons of PM, PM_{10} or $PM_{2.5}$/month;

T_{PM} = Total 12-month rolling PM, PM_{10} or $PM_{2.5}$ emissions for each furnace, in tons/yr.

Note: To calculate fugitive emissions, the permittee shall multiply the stack emissions by 0.0101, the ratio of fugitive emissions to stack emissions.

~~C.~~B. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

d. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

e. The permittee of a group 1 furnace shall not exceed the limits in 40 CFR 63.1505(i) to determine the emission standards for a SAPU: [40 CFR 63.1505(i)]
   i. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge; [40 CFR 63.1505(i)(1)]
   ii. 15 µg of D/F TEQ per Mg (2.1 × 10−4 gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(i)(3)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or, if the furnace is equipped with an add-on air pollution control device, 10 percent of the uncontrolled HCl emissions, by weight. [40 CFR 63.1505(i)(4)]

iv. The permittee must not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(i)(5)]

v. The permittee may determine the emission standards for a SAPU by applying the group 1 furnace limits on the basis of the aluminum production weight in each group 1 furnace, rather than on the basis of feed/charge. [40 CFR 63.1505(i)(6)]

Compliance Demonstration Method:

A. *PM and HCl emission limits.* Use Equation 7 to determine compliance with an emission limit for PM or HCl. [40 CFR 63.1513(b)(1)]

$$E=\frac{C\times Q\times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:
E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;
C = Concentration of PM or HCl, g/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
P = Production rate, Mg/hr (ton/hr).

B. *D/F emission limits*. Use Equation 7A to determine compliance with an emission limit for D/F. [40 CFR 63.1513(b)(2)]

$$E=\frac{C\times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:
E = Emission rate of D/F, µg/Mg (gr/ton) of feed;
C = Concentration of D/F, µg/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and
P = Production rate, Mg/hr (ton/hr).

C. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]

I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]

II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

D. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements** and **6. Specific Reporting. Requirements**.

f. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**. ~~For the flue gas stack, refer to **4. Specific Monitoring Requirements (h)** and **5. Specific Recordkeeping Requirements.**~~

Commented [EM22]: Please remove as this is only relevant for the Reverberatory Furnace.

g. For emissions from a control device or stack, no person shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
ii. For process weight rates up to 30 tons/hr: $E=3.59P^{0.62}$
Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

h. Refer to **SECTION D** for SAPU calculations.

Compliance Demonstration Method:
If the permittee cannot or chooses not to demonstrate compliance with the limits in **2. Emission Limitations (a)** on an individual basis, the permittee shall comply with the SAPU emission limits calculated using the equations in 40 CFR 63.1505(k) referenced in **SECTION D.3.** Initial compliance with the SAPU emission limits during the performance test shall be demonstrated by using the equations in 40 CFR 63.1513(e) referenced in the **Compliance Demonstration Method** for **SECTION D.3.** Continuous compliance with the calculated SAPU emission limits shall be demonstrated by calculating and recording the 3-day rolling 24-hour average emissions for the SAPU using the equations in 40 CFR 63.1510(t).

3. Testing Requirements:

a. The permittee shall conduct testing for CO emissions from each furnace (EU13 and EU14) no later than December 31, 2023. Thereafter, the permittee shall conduct testing for CO

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

emissions from one of the furnaces (EU13 or EU14) once every 5 years, no sooner than three and a half years (44 months) and no more than five years (60 months) from the most recent test for CO emissions. The furnace tested in each five year period shall alternate each time, i.e. if EU13 is tested, then EU14 shall be tested within the following five year period. The permittee shall: [401 KAR 50:055]

i. Conduct testing for CO emissions for the worst case operating scenario, i.e. most organically contaminated charge or other scenario that may maximize CO emissions, to demonstrate compliance with 401 KAR 51:017 emission limitations.
ii. Conduct testing for CO emissions due to the processing of dross, concentrate, and salt cake charged in order to establish the emission factor for this material.
iii. Use both test results to demonstrate that emissions from these units will not exceed the limits for CO in **2. Emission limitations.**
iv. Conduct testing in accordance with U.S. EPA Reference Method 10 or other Division approved method. Each test shall encompass a complete melting cycle.
v. Conduct an additional test(s) within each five year cycle if the composition of scrap charge changes significantly from the composition of the original tested batches.

b. The permittee shall conduct testing for VOC emissions from each furnace (EU13 and EU14) no later than December 31, 2023. Thereafter, the permittee shall conduct performance testing for VOC emissions from one of the furnaces (EU13 or EU14) once every 5 years, no sooner than three and a half years (44 months) and no more than five years (60 months) from the most recent test for VOC emissions. The furnace tested in each five year period shall alternate each time, i.e. if EU13 is tested, then EU14 shall be tested within the following five year period. The permittee shall: [401 KAR 50:055]

i. Conduct testing for VOC for the worst case operating scenario, i.e. most organically contaminated charge or other scenario that may maximize VOC emissions, to demonstrate compliance with the emission limits established to preclude 401 KAR 51:017.
ii. Conduct testing for VOC emissions due to processing of dross, concentrate, and salt cake in order to establish an emission factor for this material.
iii. Use both test results to demonstrate emissions from these units will not exceed the limits for VOC in **2. Emission limitations.**
iv. Conduct testing in accordance with U.S. EPA Reference Method 25A, or other Division approved method. Each test shall encompass a complete melting cycle.
v. Conduct an additional test(s) within each five year cycle if the composition of scrap charge changes significantly from the composition of the original tested batches.

c. The permittee shall conduct testing for PM, PM_{10} and $PM_{2.5}$ emissions from each furnace (EU13 and EU14) no later than December 31, 2023. Thereafter, the permittee shall conduct performance testing for PM, PM_{10} and $PM_{2.5}$ emissions from one of the furnaces (EU13 or EU14) once every 5 years, no sooner than three and a half years (44 months) and no more than five years (60 months) from the most recent test for PM, PM_{10} and $PM_{2.5}$ emissions. The furnace tested in each five year period shall alternate each time, i.e. if EU13 is tested, then EU14 shall be tested within the following five year period. The permittee shall: [401 KAR 50:055]

Commented [EM23]: Please add for consistency with below sentences.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

i. Conduct testing for PM, PM_{10} and $PM_{2.5}$ emissions for the worst case operating scenario to demonstrate compliance with the emission limits established to preclude 401 KAR 51:017 in **2. Emission limitations.**
ii. Conduct testing in accordance with U.S. EPA Reference Methods 5, 201A and 202, or other Division approved methods, each test shall encompass a complete melting cycle.
iii. Perform testing to establish throughput-based emission factors for PM_{10} and $PM_{2.5}$ on a furnace as representative for both furnaces.
iv. Perform testing to establish the throughput-based emission factor for ~~total~~ PM on each furnace unless the furnace meets the requirements of 40 CFR 63.1511(f), *Testing of representative emission units* and the permittee applies for a variance from the Division.

Commented [EM24]: PM means filterable PM only. Total implies filterable + condensable as would be the case for PM10/PM2.5. Any test results from SMACT being used here would be filterable PM only. Please update for clarity.

d. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

e. The permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

f. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]
   vii. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the permittee must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system. [40 CFR 63.1511(c)(9)]

g. The permittee may use an alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)(3)]

h. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

i. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division. [40 CFR 63.1511(g)]
   i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]
   ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]
   iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]
   iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

j. The permittee must conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit) or the inlet and the outlet (for the percent reduction standard). [40 CFR 63.1512(d)(1)]

k. The permittee may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the permittee is not required to conduct an emission test for HCl. [40 CFR 63.1512(d)(3)]

l. *Secondary aluminum processing unit*. The permittee must conduct performance tests as described in 40 CFR 63.1512(j)(1) through (3). The results of the performance tests are used to establish emission rates in lb/ton of feed/charge for PM, HCl and HF and µg TEQ/Mg of feed/charge for D/F emissions from each emission unit. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in 40 CFR 63.1510(t). A performance test is required for: [40 CFR 63.1512(j)]
   i. Each group 1 furnace that processes scrap other than clean charge to measure emissions of PM and D/F and either: [40 CFR 63.1512(j)(2)]
      1) Emissions of HF and HCl (for determining the emission limit); or [40 CFR 63.1512(j)(2)(i)]
      2) The mass flow rate of HCl at the inlet to and outlet from the control device (for the percent reduction standard). [40 CFR 63.1512(j)(2)(ii)]

m. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

n. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

o. The permittee of a group 1 furnace using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]
   i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests: [40 CFR 63.1512(n)(1)]
   ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]
   iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

p. The permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate: [40 CFR 63.1512(o)]
   i. Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(1)]
   ii. Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(2)]
   iii. Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5: [40 CFR 63.1512(o)(3)]

$$W_t = F_1 W_1 + F_2 W_2 \qquad (Eq.\ 5)$$

Where,

W_t = Total chlorine usage, by weight;
F_1 = Fraction of gaseous or liquid flux that is chlorine;
W_1 = Weight of reactive flux gas injected;
F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.,* F = 0.75 for magnesium chloride; and
W_2 = Weight of solid reactive flux;

   iv. Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and [40 CFR 63.1512(o)(4)]
   v. If a solid reactive flux other than magnesium chloride is used, the permittee must derive the appropriate proportion factor subject to approval by the applicable permitting authority. [40 CFR 63.1512(o)(5)]

q. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]
   i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and [40 CFR 63.1512(p)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. Record the feeder setting and lime injection rate for the 3 test runs. If the feed rate setting and lime injection rates vary between the runs, determine and record the average feed rate and lime injection rate from the 3 runs. [40 CFR 63.1512(p)(2)]

r. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA–625/3–89–016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

s. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU03,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (h)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee must inspect the labels for each group 1 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. As an alternative to a measurement device, the permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]~~(f)~~

Commented [EM25]: Please remove as this seems to be extraneous.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the Division for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]
ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

f. These requirements apply to the permittee of a group 1 furnace (with or without add-on air pollution control devices). The permittee must: [40 CFR 63.1510(j)]
   i. Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit. [40 CFR 63.1510(j)(1)]
      1) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. [40 CFR 63.1510(j)(1)(i)]
      2) The accuracy of the weight measurement device must be ±1 percent of the permittee may apply to the Division for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards. [40 CFR 63.1510(j)(1)(ii)]
      3) The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(j)(1)(iii)]
   ii. Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(2)]
   iii. Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of: [40 CFR 63.1510(j)(3)]
      1) Gaseous or liquid reactive flux other than chlorine; and [40 CFR 63.1510(j)(3)(i)]
      2) Solid reactive flux. [40 CFR 63.1510(j)(3)(ii)]
   iv. Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). For solid flux that is added intermittently, record the amount added for each operating cycle or time period used in the performance test using the procedures in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(4)]
   v. The permittee of a group 1 furnace or in-line fluxer performing reactive fluxing may apply to the Administrator for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed/charge for each operating cycle or time period

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

used in the performance test. An alternative monitoring method will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis. [40 CFR 63.1510(j)(5)]

g. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons;
   ii. The monthly natural gas usage in MMscf;
   iii. The monthly emissions of CO, VOC, PM, $PM_{10,}$ and $PM_{2.5}$ for each active furnace, and the 12-month rolling total for the same pollutant, for each active furnace, using the equations provided under **2. Emission Limitations**. The results of the equations shall be compared to the limits established for each pollutant.

h. Refer to **SECTION D.3.** for SAPU requirements.

i. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. For each group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]

iii. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]

1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]
2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

iv. For each group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken. [40 CFR 63.1517(b)(5)]

v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]

vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]

vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]

viii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]

ix. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

x. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517(b)(16)]
   1) OM&M plan; and[40 CFR 63.1517(b)(16)(ii)]
   2) Site-specific secondary aluminum processing unit emission plan (as applicable). [40 CFR 63.1517(b)(16)(iii)]

xi. For each secondary aluminum processing unit, records of total charge weight, or if the permittee chooses to comply on the basis of aluminum production, total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions. [40 CFR 63.1517(b)(17)]

xii. For any failure to meet an applicable standard, the permittee must maintain the following records; [40 CFR 63.1517(b)(18)]
   1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
   2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xiii. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee must comply with 40 CFR 63.1517(b)(19)(i) or (ii). [40 CFR 63.1517(b)(19)]
   1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee must submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
      A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(i)(A)]
      B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
      C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]
   2) To demonstrate compliance based on performance tests, the permittee must maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
      A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
      B. The measured emission in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii(B)]
      C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and [40 CFR 63.1517(b)(19)(ii)(C)]
      D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

c. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons;

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. The monthly natural gas usage in MMscf;
iii. The monthly calculated emissions of CO, VOC, PM, $PM_{10,}$ and $PM_{2.5}$ for each active furnace, and the 12-month rolling total for the same pollutant, for each active furnace, using the equations provided under **2. Emission Limitations** and the results comparing the calculated values to the limits established for each pollutant.

d. Refer to **SECTION D.3.** for SAPU requirements.

e. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. Within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the permittee shall include the following information: [40 CFR 63.1510(s)(1)]
   i. The identification of each emission unit in the SAPU; [40 CFR 63.1510(s)(1)(i)]
   ii. The specific control technology or pollution prevention measure to be used for each emission unit in the SAPU and the date of its installation or application; [40 CFR 63.1510(s)(1)(ii)]
   iii. The emission limit calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit; [40 CFR 63.1510(s)(1)(iii)]
   iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63, Subpart RRR; and [40 CFR 63.1510(s)(1)(iv)]
   v. The monitoring requirements applicable to each emission unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t). [40 CFR 63.1510(s)(1)(v)]

c. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions: [40 CFR 63.1510(s)(2)]
   i. Any averaging among emissions of differing pollutants; [40 CFR 63.1510(s)(2)(i)]
   ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit; [40 CFR 63.1510(s)(2)(ii)]
   iii. The inclusion of any emission unit while it is shutdown; or [40 CFR 63.1510(s)(2)(iii)]
   iv. The inclusion of any periods of startup or shutdown in emission calculations. [40 CFR 63.1510(s)(2)(iv)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the permittee shall submit a request to the Division containing the information required by 40 CFR 63.1510(s)(1), above, and obtain approval of the Division prior to implementing any revisions. [40 CFR 63.1510(s)(3)]

e. Except as provided in 40 CFR 63.1510(u), the permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit (SAPU) on a daily basis. [40 CFR 63.1510(t)]

f. As an alternative to the procedures of 40 CFR 63.1510(t), the permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit (SAPU) is in compliance with the applicable emission limits for the emission unit. [40 CFR 63.1510(u)]

g. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

~~h. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]~~

~~i. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]~~

Commented [EM26]: Refer to earlier comments for same SMACT conditions.

~~j.~~h. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
   3) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate,

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]

4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
1) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no feed/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]
1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B) [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

~~k.~~i. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]
ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

~~l.~~j. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

engineering judgment based on known process parameters. The report must also include a description of actions taken by the permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

~~m.~~k. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR
63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

~~n.~~l. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
   1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
   2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

b. These requirements apply to the permittee of a group 1 furnace using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
   i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]
   ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]
      1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]
      2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]
      3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

c. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]
   i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]
      1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]
3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]

ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]

iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]

iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]

d. The control devices associated ~~with EU13 and EU14~~ shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

e. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 16 (EU16) **Shredder System**

Description: A coated aluminum scrap shredder system consisting of a~~n *SSI Primax Shredder* bale breaker, *American Pulverizer*~~ hammermill shredder and shredded scrap processing operations (~~,~~a two pass air knife, an *Accumulator* hopper, cross belt magnet, drum magnet, conveyors, and transfer points). The overall maximum capacity for this system is bottlenecked by the maximum input capacity of the downstream Delacquering Furnace (EU02). This unit is considered an aluminum scrap shredder under 40 CFR 63, Subpart RRR.

Maximum Capacity: 12.04 tons/hr
~~Model: SSI Primax & American Pulverizer~~
Control Device: Baghouse
Construction Commenced: 2013

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. **Operating Limitations:**
   a. The hammermill shredder shall not be operating when the Secondary Shredder (EU22) is discharging material to the shredded scrap processing operations. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      Compliance is demonstrated through process operation logs.

   ~~a.~~b. ~~For EU16, t~~The permittee shall not exceed 288.96 tons of aluminum processed through the shredder system per day, based on a monthly average. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      The permittee shall monitor the monthly input ~~into EU16~~, divide it by the number of days in the month, and compare the resultant average tonnage per day to the limit. Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

   ~~b.~~c. In the buildings that house ~~EU16~~the unit, the permittee shall not operate external exhaust fans that vent to the atmosphere rather than a baghouse. [To preclude 401 KAR 51:017]

      Compliance Demonstration Method:
      Compliance is demonstrated through compliance with 40 CFR 63.1506(c) and recordkeeping in accordance with **5. Specific Recordkeeping Requirements**.

   ~~c.~~d. A weight measurement system ~~for EU16~~, or other weight determination procedure, must be operated, or conducted (as applicable), in accordance with the OM&M plan. [401 KAR 52:020, Section 10]

Commented [EM27]: To clarify, this existing shredder is a hammermill shredder with existing downstream scrap processing operations. Real Alloy is proposing to add a secondary knife shredder, which will also have the capability to direct shredded scrap to the existing downstream scrap processing operations.

Commented [EM28]: Please remove as this is not customary/consistent with other emission units.

Commented [EM29]: As documented in the permit application, the Secondary Shredder can discharge to the existing scrap processing operations component of EU16.

Commented [EM30]: Please remove instances of the EU# reference as this is the only emission unit included in this section.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

~~d.~~e. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

~~e.~~f. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

~~f.~~g. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]

i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, refer to 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

~~g.~~h. The permittee of a scrap shredder with emissions controlled by a fabric filter must operate a bag leak detection system, or a continuous opacity monitor, or conduct visible emissions observations. [40 CFR 63.1506(e)]

i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(e)(1)]
    1) Initiate corrective action within 1-hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(1)(i)]
    2) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(e)(1)(ii)]
ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must initiate corrective action within 1-hour of any 6-minute average reading of 5 percent or more opacity and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(2)]
iii. If visible emission observations are used to meet the monitoring requirements in 40

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

CFR 63.1510, the permittee must initiate corrective action within 1-hour of any observation of visible emissions during a daily visible emissions test and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(3)]

~~h.~~i. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

~~i.~~j. The permittee shall prepare and implement for each new or existing emission unit, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]

iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]

iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]

1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]

2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]

v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]

vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Specific Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not discharge or cause to be discharged to the atmosphere: [40 CFR 63.1505(b)]
   i. Emissions in excess of 0.023 grams (g) of PM per dry standard cubic meter (dscm) (0.010 grain (gr) of PM per dry standard cubic foot (dscf)); and [40 CFR 63.1505(b)(1)]
   ii. Visible emissions (VE) in excess of 10 percent opacity from any PM add-on air pollution control device if a continuous opacity monitor (COM) or visible emissions monitoring is chosen as the monitoring option. [40 CFR 63.1505(b)(2)]

Compliance Demonstration:
Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

d. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
   i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
   ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

e. ~~For EU16, t~~The permittee shall not exceed 1.28 tons/yr of PM, PM_{10} and $PM_{2.5}$, each, on a 12-month rolling basis. [To preclude 401 KAR 51:017]

Compliance Demonstration Method:
A. To demonstrate compliance with each emission limitation, the permittee shall use the following equations to individually calculate PM, PM_{10}, and $PM_{2.5}$ emissions each month:

$$M_{PM_i} = \frac{EF_{PM} \times P_i}{2000} + \frac{EF_{PM} \times 0.5051 \times P_i}{2000}$$

And

$$T_{PM} = \sum_{i=1}^{12} M_{PM_i}$$

Where:
M_{PM_i} = The monthly emissions for each type of PM (i.e. PM, $PM_{2.5}$, PM_{10}) during month *i* in tons/month;
EF_{PM} = Stack Emission Factor for each type of PM established during the most recent stack test in lb/ton;
P_i = The monthly throughput in month *i*, in tons;
0.5051 = The ratio of fugitive to stack emissions ~~for EU16~~
T_{PM} = The total 12-month rolling emissions of each type of PM, in tons.
B. Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

3. Testing Requirements:
a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

b. Following approval of the site-specific test plan, the permittee must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in 40 CFR 63.1515(b). The permittee must conduct

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the initial performance test within 180 days after the date for compliance established by 40 CFR 63.1501. Except for the date by which the performance test must be conducted, the permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]

i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 9 for visible emission observations. [40 CFR 63.1511(c)(6)]

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]
   i. The permittee may use test method ASTM D7520-13 as an alternative to EPA Method 9 subject to conditions described in 40 CFR 63.1510(f)(4). [40 CFR 63.1511(d)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. In lieu of conducting the annual flow rate measurements using Methods 1 and 2, the permittee may use Method 204 in Appendix M to 40 CFR part 51 to conduct annual verification of a permanent total enclosure for the affected source/emission unit. [40 CFR 63.1511(d)(2)]
iii. The permittee may use an alternative test method approved by the Administrator. [40 CFR 63.1511(d)(3)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division: [40 CFR 63.1511(g)]
i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]
ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]
iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]
iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]
v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition, if the permittee wants to use existing data in addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure PM emissions at the outlet of the control system. If visible emission observation is the selected monitoring option, the permittee must record visible emission observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test according to the requirements of Method 9 in Appendix A to 40 CFR Part 60. If emissions observations by ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) is the selected monitoring option, the permittee must record opacity observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

h. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in Appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

i. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU16,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (ii)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

Commented [EM31]: Please update per the operating limit condition.

c. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

d. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed ~~through EU16~~; ~~and~~
   ii. The 24-hour rolling tons of material processed;
   iii. The monthly hours of operation; and~~.~~
   ~~ii.~~ iv. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.

Commented [EM32]: Please update for consistency with the recordkeeping requirements.

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
      3) If an aluminum scrap shredder is subject to visible emission observation requirements, records of all Method 9 observations, including records of any visible emissions during a 30-minute daily test or records of all ASTM D7520-13 observations (incorporated by reference, see 40 CFR 63.14), including data sheets and all raw unaltered JPEGs used for opacity determination, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(iii)]
   ii. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
   iii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurement; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]
   iv. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]
   v. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]
   vi. For any failure to meet an applicable standard, the permittee must maintain the following records; [40 CFR 63.1517(b)(18)]
      1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
      2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

c. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed ~~through EU16~~;
   ii. ~~For EU 16, t~~The 24-hour rolling tons of material processed;
   iii. The monthly hours of operation; and
   iv. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.~~;~~

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

~~c. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]~~

~~d. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]~~

~~e.~~c. The permittee shall submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee

Commented [EM33]: Refer to earlier comments for same SMACT conditions.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
   3) The corrective action specified in the OM&M plan for visible emissions from an aluminum scrap shredder was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(iii)]
   4) An excursion of a compliant process or operating parameter value or range (*e.g.,* lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
   5) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]

ii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]
   1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iii. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

~~f.~~d. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

~~g.~~e. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

~~h.~~f. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

~~i.~~g. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an aluminum scrap shredder must install and operate a bag leak detection system as required in 40 CFR 63.1510(f)(1), install and operate a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2), or conduct visible emission observations as required in 40 CFR 63.1510(f)(3). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

iii. These requirements apply to the permittee of a new or existing aluminum scrap shredder who conducts visible emission observations. The permittee must: [40 CFR 63.1510(f)(3)]
1) Perform a visible emissions test for each aluminum scrap shredder using a certified observer at least once a day according to the requirements of Method 9 in appendix A to 40 CFR part 60. Each Method 9 test must consist of five 6-minute observations in a 30-minute period; and [40 CFR 63.1510(f)(3)(i)]
2) Record the results of each test. [40 CFR 63.1510(f)(3)(ii)]

iv. As an alternative to the requirements of 40 CFR 63.1510(f)(3), the permittee of a new or existing aluminum scrap shredder may measure the opacity of the emissions discharged through a stack or stacks using ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) subject to the requirements of 40 CFR 63.1510(f)(4)(i) through (iv). Each test must consist of five 6-minute observations in a 30-minute period. [40 CFR 63.1510(f)(4)]
1) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-13, the permittee or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand). [40 CFR 63.1510(f)(4)(i)]
2) The permittee must also have standard operating procedures in place including daily or other frequency quality checks to ensure that equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-13. [40 CFR 63.1510(f)(4)(ii)]
3) The permittee must follow the recordkeeping procedures outlined in 40 CFR 63.10(b)(1) for DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination. [40 CFR 63.1510(f)(4)(iii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4) The permittee or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity on any one reading and the average error must not exceed 7.5 percent opacity. [40 CFR 63.1510(f)(4)(iv)]

b. The control device~~s~~ associated ~~with EU16~~ shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 17 (EU17) Holding Furnace (#H11)

Description: This natural gas-fired furnace holds clean molten aluminum prior to casting or crucible operations. The furnace is in an enclosure and emissions are vented to the atmosphere. This unit is classified as a group 2 furnace melting clean charge and using no reactive flux under 40 CFR 63, Subpart RRR.

Maximum Firing Rate: 9.8 MMBtu/hr
Control Device: None
Construction Commenced: 2013

APPLICABLE REGULATIONS:
401 KAR 51:017, Prevention of significant deterioration of air quality, for CO
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality, for PM, PM_{10}, $PM_{2.5}$, & VOC

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 2 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
      i. The type of affected source or emission unit (e.g., group 2 furnace). [40 CFR 63.1506(b)(1)]
      ii. The applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. The permittee of a new or existing group 2 furnace must: [40 CFR 63.1506(o)]
   i. Operate each furnace using only clean charge as the feedstock, and [40 CFR 63.1506(o)(1)]
   ii. Operate each furnace using no reactive flux. [40 CFR 63.1506(o)(2)]

e. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

f. The permittee shall prepare and implement for each group 2 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]
   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]
   ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
   iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
   iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
      1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
      2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
   v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
   1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
   2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

g. Prior to changing furnace classifications to those not already authorized in **SECTION B**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

2. Emission Limitations:

a. The permittee shall not exceed 3.53 tons of CO/yr on a 12-month rolling basis. [401 KAR 51:017]

Compliance Demonstration Method:

A. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of CO each month using the following equations and compare the result to the limit:

$$M_{CO_i} = \frac{EF_{CO} \times F_i}{2000}$$

$$T_{CO} = \sum_{i=1}^{12} M_{CO_i}$$

Where:
i = month;
M_{CO_i} = The CO emissions in month i in tons;
EF_{CO} = The emission factor for CO in lb/mmscf;
F_i = The throughput of fuel in month i in mmscf;
T_{CO} = Total 12-month rolling CO emissions, in tons/yr.

B. Refer to **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

b. The permittee shall not exceed 0.23 tons of VOC/yr on a 12-month rolling basis. [To preclude 401 KAR 51:017]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

A. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of VOC each month using the following equations and compare the result to the limit:

$$M_{VOC_i} = \frac{EF_{VOC} \times F_i}{2000}$$

$$T_{VOC} = \sum_{i=1}^{12} M_{VOC_i}$$

Where:

i = month;
M_{VOC_i} = The VOC emissions in month i in tons;
EF_{VOC} = The emission factor for VOC in lb/mmscf;
F_i = The throughput of fuel in month i in mmscf;
T_{VOC} = Total 12-month rolling VOC emissions, in tons/yr.

B. Refer to **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

c. The permittee shall not exceed 0.32 tons/yr of PM (Filterable & Condensable), PM_{10} and $PM_{2.5}$ on a 12-month rolling basis. [To preclude 401 KAR 51:017]

Compliance Demonstration Method:

A. For the 12-month rolling total emission limit, the permittee shall calculate the emissions of PM (Filterable & Condensable), PM_{10} and $PM_{2.5}$ each month using the following equations and compare the result to the limit:

$$M_{PM_i} = \frac{EF_{PM} \times F_i}{2000}$$

$$T_{PM} = \sum_{i=1}^{12} M_{PM_i}$$

Where:

i = month;
M_{PM_i} = The PM (Filterable & Condensable), PM_{10} or $PM_{2.5}$ emissions in month i in tons;
EF_{PM} = The emission factor for PM (Filterable & Condensable), PM_{10} or $PM_{2.5}$ in lb/mmscf;
F_i = The throughput of fuel in month i in mmscf;
T_{PM} = Total 12-month rolling PM (Filterable & Condensable), PM_{10} and $PM_{2.5}$ emissions, in tons/yr.

B. Refer to **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

d. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
Compliance is assumed as long as the furnace holds only molten clean aluminum, is not subject to fluxing or solid additions, and burns only natural gas as fuel.

e. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i.	For process weight rates of 0.50 ton/hr or less:	2.34 lbs/hr
ii.	For process weight rates up to 30.00 tons/hr:	$E=3.59P^{0.62}$
iii.	For process weight rates >30 ton/hr:	$E=17.31\times P^{0.16}$

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the preclusion limits for 401 KAR 51:017 under **2. Emission Limitations** and when burning only natural gas as fuel.

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU03,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (f)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee must inspect the labels for each group 2 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons;
   ii. The monthly natural gas usage in MMscf;
   iii. The monthly emissions of CO, VOC, PM, $PM_{10,}$ and $PM_{2.5}$, and the 12-month rolling total for the same pollutant, using the equations provided under **2. Emission Limitations**. The results of the equations shall be compared to the limits established for each pollutant.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee of each new or existing group 2 furnace shall record a description of the materials charged to each furnace, including any nonreactive, non-HAP-containing / non-HAP-generating fluxing materials or agents. [40 CFR 63.1510(r)(1)]

b. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

c. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
   ii. Records of all charge materials and fluxing materials or agents for a group 2 furnace. [40 CFR 63.1517(b)(12)]
   iii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]
   iv. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]
   v. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]

d. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons;
   ii. The monthly natural gas usage in MMscf;
   iii. The monthly emissions of CO, VOC, PM, $PM_{10,}$ and $PM_{2.5}$, and the 12-month rolling total for the same pollutant, using the equations provided under **2. Emission Limitations**. The results of the equations shall be compared to the limits established for each pollutant.

e. Refer to **SECTION F** for general recordkeeping requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. The permittee must submit a certification of compliance with the applicable operational standard for charge materials in 40 CFR 63.1506(o) for each 6-month reporting period. Each certification must contain the information in 40 CFR 63.1516(b)(2)(v). [40 CFR 63.1510(r)(2)]

c. The permittee of each group 2 furnace must submit the information described in 40 CFR 63.1515(b)(3) as part of the notification of compliance status report to document conformance with the operational standard in 40 CFR 63.1506(b). [40 CFR 63.1512(r)]

d. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]
   i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
      1) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
      2) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
      1) For each group 2 furnace: "Only clean charge materials were processed in any group 2 furnace during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non-HAP-containing/non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period." [40 CFR 63.1516(b)(2)(v)]

e. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

f. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 2319 (EU2319) Holding Furnace

Commented [EM34]: The Holding Furnace planned with Rotary Furnace (RA1) is instead being added in connection to the modified Rotary Furnace 5. Please assign a new EU ID and update the EU description, but the requirements otherwise hold.

Description: This natural gas-fired furnace holds clean molten aluminum prior to casting or crucible operations. The furnace is uncontrolled and classified as a Group 2 furnace, under 40 CFR 63, Subpart RRR, melting clean charge and using no reactive flux.

Maximum Firing Rate: 9.86 MMBtu/hr
Control Device: None
Construction Commenced: TBD2023

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 2 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
      i. The type of affected source or emission unit (e.g., group 2 furnace). [40 CFR 63.1506(b)(1)]
      ii. The applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

   d. The permittee of a new or existing group 2 furnace must: [40 CFR 63.1506(o)]
      i. Operate each furnace using only clean charge as the feedstock, and [40 CFR 63.1506(o)(1)]
      ii. Operate each furnace using no reactive flux. [40 CFR 63.1506(o)(2)]

   e. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

f. The permittee shall prepare and implement for each group 2 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after the compliance date established by 40 CFR 63.1501. The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]
   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]
   ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
   iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
   iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
      1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
      2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
   v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
   vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]
      1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
      2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

g. Prior to changing furnace classifications to those not already authorized in **SECTION B**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

2. Emission Limitations:

a. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed as long as the furnace holds only molten clean aluminum, is not subject to fluxing or solid additions, and burns only natural gas as fuel.

b. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$
iii. For process weight rates greater than 30 ton/hr: $E=17.31\times P^{0.16}$

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed based on the information and emissions calculations submitted with the application for construction, and on the requirement that the furnace holds only molten clean aluminum, is not subject to fluxing or solid additions, and burns only natural gas as fuel.

3. Testing Requirements:

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement ~~for EU19,~~ a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (f)** and **6. Specific Reporting Requirements**, for OM&M plan requirements. [40 CFR 63.1510(b)]

Commented [EM35]: Please add for consistency with other emission units.

c. The permittee must inspect the labels for each group 2 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee of each new or existing group 2 furnace shall record a description of the materials charged to each furnace, including any nonreactive, non-HAP-containing / non-HAP-generating fluxing materials or agents. [40 CFR 63.1510(r)(1)]

b. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

c. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
   ii. Records of all charge materials and fluxing materials or agents for a group 2 furnace. [40 CFR 63.1517(b)(12)]
   iii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]
   iv. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

v. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]

d. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

e. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. The permittee must submit a certification of compliance with the applicable operational standard for charge materials in 40 CFR 63.1506(o) for each 6-month reporting period. Each certification must contain the information in 40 CFR 63.1516(b)(2)(v). [40 CFR 63.1510(r)(2)]

c. The permittee of each group 2 furnace must submit the information described in 40 CFR 63.1515(b)(3) as part of the notification of compliance status report to document conformance with the operational standard in 40 CFR 63.1506(b). [40 CFR 63.1512(r)]

d. As required by 40 CFR 63.9(b)(4), the permittee must provide notification of: [[40 CFR 63.1515(a)(3)]
   i. Date when construction was commenced, no later than 30 days after the date construction was commenced; [40 CFR 63.1515(a)(3)(ii)]
   ii. Anticipated date of startup; and [40 CFR 63.1515(a)(3)(iii)]
   iii. Actual date of startup. [40 CFR 63.1515(a)(3)(iv)]

e. *Notification of compliance status report.* The permittee must submit a notification of compliance status report within 90 days after the compliance date established by 40 CFR 63.1501. The notification must be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report must include the information specified in 40 CFR 63.1515(a)(1) through (10). The required information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination. If the permittee submits the information specified in this section at different times or in different submittals, later

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A complete notification of compliance status report must include: [40 CFR 63.1515(b)]

i. All information required in 40 CFR 63.9(h). [40 CFR 63.1515(b)(1)]
ii. Unit labeling as described in 40 CFR 63.1506(b), including process type or furnace classification and operating requirements. [40 CFR 63.1515(b)(3)]
iii. The OM&M plan. [40 CFR 63.1515(b)(9)]

f. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]
   i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
      1) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
      2) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
      1) For each group 2 furnace: "Only clean charge materials were processed in any group 2 furnace during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non-HAP-containing/non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period." [40 CFR 63.1516(b)(2)(v)]

g. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

h. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 18 (EU18) – Rotary Furnace (RA1)

Description: The custom-built, natural gas-fired, rotary aluminum furnace melts scrap in batches. Under 40 CFR 63, Subpart RRR, the unit is classified as a group 1 furnace, melting other than clean charge, using a solid reactive flux
Maximum Capacity: 8.5 tons/hr, 55,000 tons/yr
Maximum Firing Rate: 27 MMBtu/hr
Control Device: Lime-Injected Baghouse
Construction Commenced: 2023

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(eee) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

1. **Operating Limitations:**
   a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

   b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

   c. The permittee must provide and maintain easily visible labels posted at each group 1 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]
      i. The type of affected source or emission unit (*e.g.*, group 1 furnace). [40 CFR 63.1506(b)(1)]
      ii. The applicable operational standard(s) and control method(s)(work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

   d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
      i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, see 40 CFR 63.14); [40 CFR 63.1506(c)(1)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]

iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]

i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1)]

ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]

iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that: [40 CFR 63.1506(d)(3)]

1) The aluminum production weight, rather than feed/charge weight is measured and recorded; and [40 CFR 63.1506(d)(3)(i)]

2) All calculations to demonstrate compliance with the emission limits are based on aluminum production weight rather than feed/charge weight. [40 CFR 63.1506(d)(3)(ii)]

f. The permittee of a group 1 furnace with emissions controlled by a lime-injected fabric filter must: [40 CFR 63.1506(m)]

i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(1)]

1) Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)(i)]

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)(ii)]

3) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(m)(1)(iii)]

ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(2)]

1) Initiate corrective action within 1 hour of any 6-minute average reading of 5 percent or more opacity; and [40 CFR 63.1506(m)(2)(i)]

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(2)(ii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

iii. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(m)(3)]

iv. For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(m)(4)]

v. Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]

g. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

h. The permittee shall prepare and implement for each group 1 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]

iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]

iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]

1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]

v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]

vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]

1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]

2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

i. Prior to changing furnace classifications to those not already authorized in **SECTION B**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

j. The permittee shall not operate EU18 until EU04 is permanently shut down. Refer to **Section H, Alternate Operating Scenario 1.**

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not allow the emissions from EU18 (RA1) to exceed the following limits: [40 CFR 63.1505(i)]

i. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge; [40 CFR 63.1505(i)(1)]

ii. 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(i)(3)]

iii. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or 10 percent of the uncontrolled HCl emissions, by weight. [40 CFR 63.1505(i)(4)]

iv. The permittee may apply the group 1 furnace limits on the basis of the aluminum production weight in the group 1 furnace, rather than on the basis of feed/charge. [40 CFR 63.1505(i)(6)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:

A. *PM and HCl emission limits*. Use Equation 7 to determine compliance with an emission limit for PM or HCl. [40 CFR 63.1513(b)(1)]

$$E=\frac{C\times Q\times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:
E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;
C = Concentration of PM or HCl, g/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);
K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
P = Production rate, Mg/hr (ton/hr).

B. *D/F emission limits*. Use Equation 7A to determine compliance with an emission limit for D/F. [40 CFR 63.1513(b)(2)]

$$E=\frac{C\times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:
E = Emission rate of D/F, µg/Mg (gr/ton) of feed;
C = Concentration of D/F, µg/dscm (gr/dscf);
Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and
P = Production rate, Mg/hr (ton/hr).

C. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]

I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]

II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

D. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements** and **6. Specific Reporting. Requirements**.

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

d. For emissions from a control device or stack, no person shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
   i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
   ii. For process weight rates up to 30 tons/hr: $E=3.59P^{0.62}$.
   Where:
   E = the allowable PM emissions rate (lbs/hr)
   P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

3. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

b. Following approval of the site-specific test plan, permittee must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in 40 CFR 63.1515(b). The permittee of any affected source constructed or reconstructed after February 14, 2012, for which an initial performance test is required must conduct this initial performance test within 180 days after the date for compliance established by 40 CFR 63.1501. Except for the date by which the performance test must be conducted, the permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(e). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance

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tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]

ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]

iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]

iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]

v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]

vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]

i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]

ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]

iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]

iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]

v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]

vi. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]

vii. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. [40 CFR 63.1511(c)(9)]

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter

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values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division. [40 CFR 63.1511(g)]

i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]

ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]

iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]

iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]

v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition to the results of the new performance test to establish operating parameter values, the permittee must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit) or the inlet and the outlet (for the percent reduction standard). [40 CFR 63.1512(d)(1)]

h. The permittee may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the permittee is not required to conduct an emission test for HCl. [40 CFR 63.1512(d)(3)]

i. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

j. The permittee of a group 1 furnace using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]

i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests; [40 CFR 63.1512(n)(1)]

ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]

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iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

k. The permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate: [40 CFR 63.1512(o)]
   i. Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15-minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(1)]
   ii. Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(2)]
   iii. Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5: [40 CFR 63.1512(o)(3)]

$$W_t = F_1 W_1 + F_2 W_2 \qquad (Eq.\ 5)$$

Where,
W_t = Total chlorine usage, by weight;
F_1 = Fraction of gaseous or liquid flux that is chlorine;
W_1 = Weight of reactive flux gas injected;
F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.*, F = 0.75 for magnesium chloride; and
W_2 = Weight of solid reactive flux;

   iv. Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and [40 CFR 63.1512(o)(4)]
   v. If a solid reactive flux other than magnesium chloride is used, the permittee must derive the appropriate proportion factor subject to approval by the Division. [40 CFR 63.1512(o)(5)]

l. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]
   i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and [40 CFR 63.1512(p)(1)]
   ii. Record the feeder setting for the 3 test runs. If the feed rate setting and lime injection rates vary between the runs, determine and record the average feed rate and lime injection rate from the 3 runs. [40 CFR 63.1512(p)(2)]

m. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA-625/3-89-016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

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n. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. **Specific Monitoring Requirements:**

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement for EU18, a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations** and **6. Specific Reporting Requirements**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee must inspect the labels for each group 1 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]

i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]

ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(e) and record the results of each inspection. [40 CFR 63.1510(d)(2)]

iii. Meet the requirements in permit **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. As an alternative to a measurement device, the permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]

i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the permitting agency for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]

ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

f. These requirements apply to the permittee of a group 1 furnace (with or without add-on air pollution control devices). The permittee must: [40 CFR 63.1510(j)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

i. Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit. [40 CFR 63.1510(j)(1)]
   1) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. [40 CFR 63.1510(j)(1)(i)]
   2) The accuracy of the weight measurement device must be ±1 percent of the weight of the reactive component of the flux being measured. The permittee may apply to the Division for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards. [40 CFR 63.1510(j)(1)(ii)]
   3) The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(j)(1)(iii)]

ii. Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(2)]

iii. Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of: [40 CFR 63.1510(j)(3)]
   1) Gaseous or liquid reactive flux other than chlorine; and [40 CFR 63.1510(j)(3)(i)]
   2) Solid reactive flux. [40 CFR 63.1510(j)(3)(ii)]

iv. Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(4)]

v. The permittee of a group 1 furnace or in-line fluxer performing reactive fluxing may apply to the Division for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed/charge for each operating cycle or time period used in the performance test. An alternative monitoring method will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards on a continuous basis. [40 CFR 63.1510(j)(5)]

g. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

h. Refer to **SECTION F** for general monitoring requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Recordkeeping Requirements**:
   a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
      i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
      ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
      iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

   b. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source must maintain records of: [40 CFR 63.1517(b)]
      i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter, if a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      ii. For each group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]
      iii. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]
         1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]
         2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit.

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These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

iv. For each group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken. [40 CFR 63.1517(b)(5)]

v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]

vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]

vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]

viii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]

ix. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

x. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517(b)(16)]
   1) OM&M plan; and [40 CFR 63.1517(b)(16)(ii)]
   2) Site-specific secondary aluminum processing unit emission plan (as applicable). [40 CFR 63.1517(b)(16)(iii)]

xi. For any failure to meet an applicable standard, the permittee must maintain the following records; [40 CFR 63.1517(b)(18)]
   1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
   2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xii. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee must comply with 40 CFR 63.1517(b)(19)(i) or (ii). [40 CFR 63.1517(b)(19)]
   1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee must submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
      A. The date and time of each startup ad shutdown; [40 CFR 63.1517(b)(19)(i)(A)]

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B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]

2) To demonstrate compliance based on performance tests, the permittee must maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
B. The measured emission in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii(B)]
C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and [40 CFR 63.1517(b)(19)(ii)(C)]
D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

e. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
i. The monthly throughput in tons; and
ii. The monthly natural gas usage in MMscf.

d. Refer to **SECTION F** for general recordkeeping requirements.

6. **Specific Reporting Requirements:**
a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. Within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the permittee shall include the following information: [40 CFR 63.1510(s)(1)]
i. The identification of each emission unit in the SAPU; [40 CFR 63.1510(s)(1)(i)]
ii. The specific control technology or pollution prevention measure to be used for each emission unit in the SAPU and the date of its installation or application; [40 CFR 63.1510(s)(1)(ii)]
iii. The emission limit calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit; [40 CFR 63.1510(s)(1)(iii)]

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iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63, Subpart RRR; and [40 CFR 63.1510(s)(1)(iv)]
v. The monitoring requirements applicable to each emission unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t). [40 CFR 63.1510(s)(1)(v)]

c. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions: [40 CFR 63.1510(s)(2)]
i. Any averaging among emissions of differing pollutants; [40 CFR 63.1510(s)(2)(i)]
ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit; [40 CFR 63.1510(s)(2)(ii)]
iii. The inclusion of any emission unit while it is shutdown; or [40 CFR 63.1510(s)(2)(iii)]
iv. The inclusion of any periods of startup or shutdown in emission calculations. [40 CFR 63.1510(s)(2)(iv)]

d. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the permittee shall submit a request to the Division containing the information required by 40 CFR 63.1510(s)(1), above, and obtain approval of the Division prior to implementing any revisions. [40 CFR 63.1510(s)(3)]

e. Except as provided in 40 CFR 63.1510(u), the permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit (SAPU) on a daily basis. [40 CFR 63.1510(t)]

f. As an alternative to the procedures of 40 CFR 63.1510(t), the permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit (SAPU) is in compliance with the applicable emission limits for the emission unit. [40 CFR 63.1510(u)]

g. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Division. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

h. As required by 40 CFR 63.9(b)(4), the permittee must provide notification of: [[40 CFR 63.1515(a)(3)]
i. Date when construction was commenced, no later than 30 days after the date construction was commenced; [40 CFR 63.1515(a)(3)(ii)]
ii. Anticipated date of startup; and [40 CFR 63.1515(a)(3)(iii)]
iii. Actual date of startup. [40 CFR 63.1515(a)(3)(iv)]

i. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The

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permittee must notify the Division of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]

j. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]

k. *Notification of compliance status report.* The permittee must submit a notification of compliance status report within 90 days after conducting the initial performance test required by 40 CFR 63.1511(b). The notification must be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report must include the information specified in 40 CFR 63.1515(a)(1) through (10). The required information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination. If the permittee submits the information specified in this section at different times or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A complete notification of compliance status report must include: [40 CFR 63.1515(b)]

i. All information required in 40 CFR 63.9(h). The permittee must provide a complete performance test report for each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations (including visible emission and opacity tests). [40 CFR 63.1515(b)(1)]

ii. The approved site-specific test plan and performance evaluation test results for each continuous monitoring system (including a continuous emission or opacity monitoring system). [40 CFR 63.1515(b)(2)]

iii. Unit labeling as described in 40 CFR 63.1506(b), including process type or furnace classification and operating requirements. [40 CFR 63.1515(b)(3)]

iv. The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value (e.g., lime injection rate, total reactive chlorine flux injection rate, total reactive fluorine flux injection rate for uncontrolled group 1 furnaces, afterburner operating temperature, fabric filter inlet temperature), including the operating cycle or time period used in the performance test. [40 CFR 63.1515(b)(4)]

v. Design information and analysis, with supporting documentation, demonstrating conformance with the requirements for capture/collection systems in 40 CFR 63.1506(e). [40 CFR 63.1515(b)(5)]

vi. If applicable, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in 40 CFR 63.1510(f). [40 CFR 63.1515(b)(6)]

vii. The OM&M plan. [40 CFR 63.1515(b)(9)]

l. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]
   1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
   2) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
   3) An affected source was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]
   4) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]
   1) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no feed/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]
   1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

m. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(e)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(e)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(e)(2)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

n. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by a permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

o. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

p. Refer to **SECTION F** for general reporting requirements.

7. **Specific Control Equipment Requirements**

a. The permittee of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]

2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]

3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]

4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]

5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]

6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

b. These requirements apply to the permittee of a group 1 furnace using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]
ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]
1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]
2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]
3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

c. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]
i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]
1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8-hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]

3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]

ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]

iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]

iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]

d. The control devices associated with EU18 shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

e. Refer to **SECTION E**.

8. Alternate Operating Scenarios:

Refer to **Section H** for an alternate operating scenario regarding continued operation of EU04 until operation of EU18 is commenced.

Commented [EM36]: Rotary Furnace 5 is no longer slated for replacement by Rotary Furnace (RA1). Instead, it is being modified and maintained onsite. Please remove this replacement furnace and bring Rotary Furnace 5 back into Section B from Section H.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 20 (EU20) Salt Cake Pre-Processing Operation

Description: Salt cake is pre-processed inside the Mud Room Building using an excavator or functionally equipment type of mechanical processing equipment.
Maximum Capacity: 13.7 ton/hr salt cake (monthly average)
Control Device: Baghouse (Mud Room Baghouse)
Construction Commenced: ~~2022~~TBD

Commented [EM37]: Real Alloy has not brought in the excavator for pre-processing in this area, but reserves the right to do so under the construction authorization provided by V-19-026 R1.

APPLICABLE REGULATIONS:
401 KAR 53:010, Ambient air quality standards
401 KAR 59:010, New process operations

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

      Compliance Demonstration Method:
      Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

   b. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
      i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
      ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$
      Where:
      E = the allowable PM emissions rate (lbs/hr)
      P = the process weight rate (tons/hr)

      Compliance Demonstration Method:
      The permittee shall demonstrate compliance each month by comparing the allowable rate to the actual rate calculated using the following equation:

$$E_{PMi} = \frac{P_i \times EF_{PM}}{h_i} \times \left(1 - \frac{CE}{100}\right)$$

      Where:
      i = month;
      E_{PMi} = the actual average hourly particulate emissions rate for month i (lb/hr);
      P_i = the actual process weight rate for month i (tons/month);
      EF_{PM} = the overall uncontrolled KYEIS particulate emission factor (lb/unit);
      h_i = the actual total hours of operation for month i (hrs/month); and

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CE = the overall control efficiency (%).

c. The permittee shall ensure that odors are not detected beyond the property line in accordance with the following standard: [401 KAR 53:010, Section 4, Appendix A]

At any time when 1 volume unit of ambient air is mixed with 7 volume units of odorless air, the mixture must have no detectable odor.

Compliance Demonstration Method:
The permittee shall demonstrate compliance with the odor standard by taking reasonable precautions to prevent ammonia gasses and their odors from migrating beyond the property line. Precautions shall include, but are not limited to, minimizing the process byproducts' exposure to moisture.

3. Testing Requirements:
Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly hours of operation ~~for EU20~~;
   ii. The monthly processing rate of salt cake in tons; and
   iii. The daily pressure drop across the baghouse.

b. The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack no less frequently than once every 7 calendar days while the affected facility is operating. If visible emissions from the stack are observed (not including condensed water in the plume), then the permittee shall determine the opacity using U.S. EPA Reference Method 9. In lieu of determining the opacity using U.S. EPA Reference Method 9, the permittee shall immediately perform a corrective action which results in no visible emissions (not including condensed water in the plume). [401 KAR 52:020, Section 10]

c. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly hours of operation ~~for EU20~~;
   ii. The monthly processing rate of salt cake in tons,
   iii. The daily pressure drop across the baghouse;
   iv. The hourly PM emission rate, as calculated for **2. Emission Limitations**, in lb/hr; and

b. The permittee shall retain records of the qualitative visual observations required by **4. Specific Monitoring Requirements (b)**, including the date, time, initials of observer, whether any emissions were observed (yes/no), any Method 9 readings taken, and any

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

corrective action taken including results due to observed emissions. [401 KAR 52:020, Section 10]

c. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:
Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Operating Conditions:

a. The permittee shall install, calibrate, maintain, and operate a pressure drop monitoring device to continuously monitor the differential pressure across the baghouse to ensure that pressure does not drop outside the pressure drop range documented by the manufacturer's specifications or the pressure drop range determined during the most recent performance test. Personnel will monitor the differential pressure reading across the baghouse at least once per day during operation. [401 KAR 52:020, Section 10]

b. The control equipment shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 21 (EU21) Primary Shredder

Description: The Primary Shredder is used to de-bale/shred purchased aluminum scrap in preparation for further downstream processing (i.e., secondary shredding in the Secondary Shredder (EU 22) and subsequent cleaning, separation, and sorting in the scrap processing section of the existing Shredder System (EU 16) and/or direct feeding and melting in the furnaces). This unit is considered an aluminum scrap shredder under 40 CFR 63, Subpart RRR.
Maximum Capacity: 38 tons/hr
Control Device: Baghouse
(shared with EU 22)
Construction Commenced: TBD

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

a. A weight measurement system or other weight determination procedure, must be operated, or conducted (as applicable), in accordance with the OM&M plan. [401 KAR 52:020, Section 10]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

c. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
   i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, refer to 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
   ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
   iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of a scrap shredder with emissions controlled by a fabric filter must operate a bag leak detection system, or a continuous opacity monitor, or conduct visible emissions observations. [40 CFR 63.1506(e)]
   i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(e)(1)]
      1) Initiate corrective action within 1-hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(1)(i)]
      2) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(e)(1)(ii)]
   ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must initiate corrective action within 1-hour of any 6-minute average reading of 5 percent or more opacity and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(2)]
   iii. If visible emission observations are used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must initiate corrective action within 1-hour of any observation of visible emissions during a daily visible emissions test and complete the

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(3)]

f. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

g. The permittee shall prepare and implement for each new or existing emission unit, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]
   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]
   ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
   iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
   iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
      1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
      2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
   v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
   vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Specific Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not discharge or cause to be discharged to the atmosphere: [40 CFR 63.1505(b)]
   i. Emissions in excess of 0.023 grams (g) of PM per dry standard cubic meter (dscm) (0.010 grain (gr) of PM per dry standard cubic foot (dscf)); and [40 CFR 63.1505(b)(1)]
   ii. Visible emissions (VE) in excess of 10 percent opacity from any PM add-on air pollution control device if a continuous opacity monitor (COM) or visible emissions monitoring is chosen as the monitoring option. [40 CFR 63.1505(b)(2)]

Compliance Demonstration:
Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

d. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
   i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
   ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

e. The permittee shall not exceed 12.80 tons/yr of PM, 6.32 PM_{10} and 3.74 $PM_{2.5}$ on a 12-month rolling basis. [To preclude 401 KAR 51:017]

Compliance Demonstration Method:
A. To demonstrate compliance with each emission limitation, the permittee shall use the following equations to individually calculate PM, PM_{10}, and $PM_{2.5}$ emissions each month:

$$M_{PM_i} = \frac{EF_{PM} x\ P_i}{2{,}000} + \frac{EF_{PM_U}\ x\ P_i}{2{,}000}$$

And

$$T_{PM} = \sum_{i=1}^{12} M_{PM_i}$$

Where:
M_{PM_i} = The monthly emissions for each type of PM (i.e. PM, $PM_{2.5}$, PM_{10}) during month *i* in tons/month;
EF_{PM} = Stack Emission Factor for each type of PM established during the most recent stack test in lb/ton;
EF_{PM_U} = Uncaptured Emission Factor for each type of PM established during the most recent stack test in lb/ton;
P_i = The monthly throughput in month *i*, in tons;
T_{PM} = The total 12-month rolling emissions of each type of PM, in tons.

B. Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

3. Testing Requirements:
a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such

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records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

b. Following approval of the site-specific test plan, the permittee must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in 40 CFR 63.1515(b). The permittee must conduct the initial performance test within 180 days after the date for compliance established by 40 CFR 63.1501. Except for the date by which the performance test must be conducted, the permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
   v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
   vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 9 for visible emission observations. [40 CFR 63.1511(c)(6)]

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1)

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

through (3). [40 CFR 63.1511(d)]

i. The permittee may use test method ASTM D7520-13 as an alternative to EPA Method 9 subject to conditions described in 40 CFR 63.1510(f)(4). [40 CFR 63.1511(d)(1)]

ii. In lieu of conducting the annual flow rate measurements using Methods 1 and 2, the permittee may use Method 204 in Appendix M to 40 CFR part 51 to conduct annual verification of a permanent total enclosure for the affected source/emission unit. [40 CFR 63.1511(d)(2)]

iii. The permittee may use an alternative test method approved by the Administrator. [40 CFR 63.1511(d)(3)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division: [40 CFR 63.1511(g)]

i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]

ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]

iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]

iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]

v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition, if the permittee wants to use existing data in addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure PM emissions at the outlet of the control system. If visible emission observation is the selected monitoring option, the permittee must record visible emission observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test according to the requirements of Method 9 in Appendix A to 40 CFR Part 60. If emissions observations by ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) is the selected monitoring option, the permittee must record opacity observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(a)]

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h. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in Appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

i. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (g)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

d. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed;
   ii. The monthly hours of operation; and
   iii. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]

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iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
      3) If an aluminum scrap shredder is subject to visible emission observation requirements, records of all Method 9 observations, including records of any visible emissions during a 30-minute daily test or records of all ASTM D7520-13 observations (incorporated by reference, see 40 CFR 63.14), including data sheets and all raw unaltered JPEGs used for opacity determination, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(iii)]
   ii. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
   iii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurement; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]
   iv. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]
   v. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]
   vi. For any failure to meet an applicable standard, the permittee must maintain the following records: [40 CFR 63.1517(b)(18)]
      1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
      2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

c. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed;
   ii. The monthly hours of operation; and
   iii. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

c. The permittee shall submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee

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must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]

1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
3) The corrective action specified in the OM&M plan for visible emissions from an aluminum scrap shredder was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(iii)]
4) An excursion of a compliant process or operating parameter value or range (*e.g.*, lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
5) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]

ii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]

1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iii. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

d. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]
ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

e. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation

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to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

f. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

g. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an aluminum scrap shredder must install and operate a bag leak detection system as required in 40 CFR 63.1510(f)(1), install and operate a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2), or conduct visible emission observations as required in 40 CFR 63.1510(f)(3). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]

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9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

iii. These requirements apply to the permittee of a new or existing aluminum scrap shredder who conducts visible emission observations. The permittee must: [40 CFR 63.1510(f)(3)]
1) Perform a visible emissions test for each aluminum scrap shredder using a certified observer at least once a day according to the requirements of Method 9 in appendix A to 40 CFR part 60. Each Method 9 test must consist of five 6-minute observations in a 30-minute period; and [40 CFR 63.1510(f)(3)(i)]
2) Record the results of each test. [40 CFR 63.1510(f)(3)(ii)]

iv. As an alternative to the requirements of 40 CFR 63.1510(f)(3), the permittee of a new or existing aluminum scrap shredder may measure the opacity of the emissions discharged through a stack or stacks using ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) subject to the requirements of 40 CFR 63.1510(f)(4)(i) through (iv). Each test must consist of five 6-minute observations in a 30-minute period. [40 CFR 63.1510(f)(4)]
1) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-13, the permittee or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand). [40 CFR 63.1510(f)(4)(i)]
2) The permittee must also have standard operating procedures in place including daily or other frequency quality checks to ensure that equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-13. [40 CFR 63.1510(f)(4)(ii)]
3) The permittee must follow the recordkeeping procedures outlined in 40 CFR 63.10(b)(1) for DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination. [40 CFR 63.1510(f)(4)(iii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4) The permittee or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity on any one reading and the average error must not exceed 7.5 percent opacity. [40 CFR 63.1510(f)(4)(iv)]

b. The control device associated shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 22 (EU22) Secondary Shredder

Description: The Secondary Shredder is used to further shred to a smaller size the shredded scrap stream from the Primary Shredder (EU21) in preparation for further downstream processing (i.e., cleaning, separation, and sorting in the scrap processing section of the existing Shredder System (EU16) and/or direct feeding and melting in the furnaces). This unit is considered an aluminum scrap shredder under 40 CFR 63, Subpart RRR.
Maximum Capacity: 19 tons/hr
Control Device: Baghouse
(shared with EU21)
Construction Commenced: TBD

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations
401 KAR 63:002, Section 2(4)(ccc) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR), *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*

PRECLUDED REGULATION:
401 KAR 51:017, Prevention of significant deterioration of air quality

1. Operating Limitations:

a. A weight measurement system or other weight determination procedure, must be operated, or conducted (as applicable), in accordance with the OM&M plan. [401 KAR 52:020, Section 10]

Compliance Demonstration Method:
Refer to **4. Specific Monitoring Requirements** and **5. Specific Recordkeeping Requirements**.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1506. [40 CFR 63.1506(a)(1)]

c. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]

d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(c)]
   i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, refer to 40 CFR 63.14); [40 CFR 63.1506(c)(1)]
   ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(c)(2)]
   iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(c)(3)]

e. The permittee of a scrap shredder with emissions controlled by a fabric filter must operate a bag leak detection system, or a continuous opacity monitor, or conduct visible emissions observations. [40 CFR 63.1506(e)]
   i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(e)(1)]
      1) Initiate corrective action within 1-hour of a bag leak detection system alarm and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(1)(i)]
      2) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(e)(1)(ii)]
   ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must initiate corrective action within 1-hour of any 6-minute average reading of 5 percent or more opacity and complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(2)]
   iii. If visible emission observations are used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must initiate corrective action within 1-hour of any observation of visible emissions during a daily visible emissions test and complete the

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(e)(3)]

f. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

g. The permittee shall prepare and implement for each new or existing emission unit, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]
   i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]
   ii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]
   iii. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]
   iv. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]
      1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]
      2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]
   v. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]
   vi. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]
2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

vii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

Compliance Demonstration Method:
Refer to **3. Specific Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

2. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not discharge or cause to be discharged to the atmosphere: [40 CFR 63.1505(b)]
   i. Emissions in excess of 0.023 grams (g) of PM per dry standard cubic meter (dscm) (0.010 grain (gr) of PM per dry standard cubic foot (dscf)); and [40 CFR 63.1505(b)(1)]
   ii. Visible emissions (VE) in excess of 10 percent opacity from any PM add-on air pollution control device if a continuous opacity monitor (COM) or visible emissions monitoring is chosen as the monitoring option. [40 CFR 63.1505(b)(2)]

Compliance Demonstration:
Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:
Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, **6. Specific Reporting Requirements**, and **7. Specific Control Equipment Requirements.**

d. For emissions from a control device or stack, the permittee shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]
   i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr
   ii. For process weight rates up to 30.00 tons/hr: $E=3.59P^{0.62}$

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Where:
E = the allowable PM emissions rate (lbs/hr)
P = the process weight rate (tons/hr)

Compliance Demonstration Method:
Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

e. The permittee shall not exceed 6.40 tons/yr of PM, 3.16 PM_{10} and 1.87 $PM_{2.5}$ on a 12-month rolling basis. [To preclude 401 KAR 51:017]

Compliance Demonstration Method:
B. To demonstrate compliance with each emission limitation, the permittee shall use the following equations to individually calculate PM, PM_{10}, and $PM_{2.5}$ emissions each month:

$$M_{PM_i} = \frac{EF_{PM} x\ P_i}{2{,}000} + \frac{EF_{PM_U}\ x\ P_i}{2{,}000}$$

And

$$T_{PM} = \sum_{i=1}^{12} M_{PM_i}$$

Where:
M_{PM_i} = The monthly emissions for each type of PM (i.e. PM, $PM_{2.5}$, PM_{10}) during month *i* in tons/month;
EF_{PM} = Stack Emission Factor for each type of PM established during the most recent stack test in lb/ton;
EF_{PM_U} = Uncaptured Emission Factor for each type of PM established during the most recent stack test in lb/ton;
P_i = The monthly throughput in month *i*, in tons;
T_{PM} = The total 12-month rolling emissions of each type of PM, in tons.

C. Refer to **3. Testing Requirements, 4. Specific Monitoring Requirements, 5. Specific Recordkeeping Requirements** and **6. Specific Reporting Requirements**.

3. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. Following approval of the site-specific test plan, the permittee must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in 40 CFR 63.1515(b). The permittee must conduct the initial performance test within 180 days after the date for compliance established by 40 CFR 63.1501. Except for the date by which the performance test must be conducted, the permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
   v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
   vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 9 for visible emission observations. [40 CFR 63.1511(c)(6)]

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]
   i. The permittee may use test method ASTM D7520-13 as an alternative to EPA Method 9 subject to conditions described in 40 CFR 63.1510(f)(4). [40 CFR

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

63.1511(d)(1)]

ii. In lieu of conducting the annual flow rate measurements using Methods 1 and 2, the permittee may use Method 204 in Appendix M to 40 CFR part 51 to conduct annual verification of a permanent total enclosure for the affected source/emission unit. [40 CFR 63.1511(d)(2)]

iii. The permittee may use an alternative test method approved by the Administrator. [40 CFR 63.1511(d)(3)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division: [40 CFR 63.1511(g)]

i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]

ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]

iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]

iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]

v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition, if the permittee wants to use existing data in addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure PM emissions at the outlet of the control system. If visible emission observation is the selected monitoring option, the permittee must record visible emission observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test according to the requirements of Method 9 in Appendix A to 40 CFR Part 60. If emissions observations by ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) is the selected monitoring option, the permittee must record opacity observations from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(a)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

h. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in Appendix B to 40 CFR part 60. Following the performance evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

i. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

4. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (g)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee shall: [40 CFR 63.1510(d)]
   i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
   ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]
   iii. Meet the requirements in **SECTION E**.

d. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed;
   ii. The monthly hours of operation; and
   iii. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.

e. Refer to **SECTION F** for general monitoring requirements.

5. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]

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iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
      3) If an aluminum scrap shredder is subject to visible emission observation requirements, records of all Method 9 observations, including records of any visible emissions during a 30-minute daily test or records of all ASTM D7520-13 observations (incorporated by reference, see 40 CFR 63.14), including data sheets and all raw unaltered JPEGs used for opacity determination, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(iii)]
   ii. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]
   iii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurement; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]
   iv. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]
   v. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including the OM&M plan. [40 CFR 63.1517(b)(16)(ii)]
   vi. For any failure to meet an applicable standard, the permittee must maintain the following records: [40 CFR 63.1517(b)(18)]
      1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
      2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

c. The permittee shall retain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly tons of material processed;
   ii. The monthly hours of operation; and
   iii. The monthly and 12-month rolling PM, PM_{10}, and $PM_{2.5}$ emissions in tons.

d. Refer to **SECTION F** for general recordkeeping requirements.

6. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.
   ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

c. The permittee shall submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee

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must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]

1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]
2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]
3) The corrective action specified in the OM&M plan for visible emissions from an aluminum scrap shredder was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(iii)]
4) An excursion of a compliant process or operating parameter value or range (*e.g.*, lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]
5) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]

ii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]

1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iii. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

d. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(c)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(c)(1)]
ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(c)(2)]

e. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product-loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

f. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

g. Refer to **SECTION F** for general reporting requirements.

7. Specific Control Equipment Requirements

a. The permittee of an aluminum scrap shredder must install and operate a bag leak detection system as required in 40 CFR 63.1510(f)(1), install and operate a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2), or conduct visible emission observations as required in 40 CFR 63.1510(f)(3). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

iii. These requirements apply to the permittee of a new or existing aluminum scrap shredder who conducts visible emission observations. The permittee must: [40 CFR 63.1510(f)(3)]
1) Perform a visible emissions test for each aluminum scrap shredder using a certified observer at least once a day according to the requirements of Method 9 in appendix A to 40 CFR part 60. Each Method 9 test must consist of five 6-minute observations in a 30-minute period; and [40 CFR 63.1510(f)(3)(i)]
2) Record the results of each test. [40 CFR 63.1510(f)(3)(ii)]

iv. As an alternative to the requirements of 40 CFR 63.1510(f)(3), the permittee of a new or existing aluminum scrap shredder may measure the opacity of the emissions discharged through a stack or stacks using ASTM Method D7520-13 (incorporated by reference, see 40 CFR 63.14) subject to the requirements of 40 CFR 63.1510(f)(4)(i) through (iv). Each test must consist of five 6-minute observations in a 30-minute period. [40 CFR 63.1510(f)(4)]
1) During the digital camera opacity technique (DCOT) certification procedure outlined in Section 9.2 of ASTM D7520-13, the permittee or the DCOT vendor must present the plumes in front of various backgrounds of color and contrast representing conditions anticipated during field use such as blue sky, trees, and mixed backgrounds (clouds and/or a sparse tree stand). [40 CFR 63.1510(f)(4)(i)]
2) The permittee must also have standard operating procedures in place including daily or other frequency quality checks to ensure that equipment is within manufacturing specifications as outlined in Section 8.1 of ASTM D7520-13. [40 CFR 63.1510(f)(4)(ii)]
3) The permittee must follow the recordkeeping procedures outlined in 40 CFR 63.10(b)(1) for DCOT certification, compliance report, data sheets and all raw unaltered JPEGs used for opacity and certification determination. [40 CFR 63.1510(f)(4)(iii)]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4) The permittee or the DCOT vendor must have a minimum of four (4) independent technology users apply the software to determine the visible opacity of the 300 certification plumes. For each set of 25 plumes, the user may not exceed 15 percent opacity on any one reading and the average error must not exceed 7.5 percent opacity. [40 CFR 63.1510(f)(4)(iv)]

b. The control device associated shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]

c. Refer to **SECTION E**.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. Although these activities are designated as insignificant the permittee must comply with the applicable regulation. Process and emission control equipment at each insignificant activity subject to an opacity standard shall be inspected monthly and a qualitative visible emissions evaluation made. Results of the inspection, evaluation, and any corrective action shall be recorded in a log.

Description	Generally Applicable Regulation
1. Lower scrap yard- vehicle fugitives	401 KAR 63:010
2. Upper (shredder) scrap yard –surface erosion fugitives	401 KAR 63:010
3. Delacquering Kiln Conveyor/transfers not vented to control device	401 KAR 63:010
4. Reverb. Furnace Charging- sidewell vibrating chute	401 KAR 63:010
5. Reverb. Furnace Ingot casting	None
6. Reverb. Furnace Crucible Filling Fugitives	401 KAR 63:010
7. Dross yard –dross receiving- drop fugitives	401 KAR 63:010
8. Dross yard – flux receiving – drop fugitives	401 KAR 63:010
9. Dross yard – dross stockpiles – wind erosion	401 KAR 63:010
10. Dross yard – flux stockpiles - wind erosion	401 KAR 63:010
11. Dross yard – sweeping and wind erosion	401 KAR 63:010
12. Dross yard – dross handling- mtrl trnsfr fugitives	401 KAR 63:010
13. Dross yard – flux handling – mtrl trnsfr fugitives	401 KAR 63:010
14. Dross yard – Vehicle traffic fugitives	401 KAR 63:010
15. Rotary Furnace Casting	None
16. Rotary Furnace Crucible filling fugitives	401 KAR 63:010
17. Crucible burners (8 at 2.1 MMBtu/hr each)	401 KAR 63:010; 401 KAR 63:020
18. Crucible cleaning	401 KAR 59:010; 401 KAR 63:010
19. Landfill – mineral spoil mixing- fugitives	401 KAR 63:010
20. Landfill – reject dumping (fugitives in EIS)	401 KAR 63:010
21. Landfill – wind erosion fugitives	401 KAR 63:010
22. Fuel storage (gasoline and diesel)	None
23. Natural gas space heaters	401 KAR 63:020
24. Maintenance activities	None
25. Baghouse change outs	401 KAR 63:010
~~26. DeOx Line Casting Preheater~~	~~401 KAR 59:010; 401 KAR 63:020~~
~~27. Charge Car on rails~~	~~None~~
26. Crucible preheater stations (4 stations with a 2.7 MMBtu/hr burner in each station)	401 KAR 63:010 401 KAR 63:020

Commented [EM38]: These insignificant activities were slated with installation of Rotary Furnace (RA1) and are no longer planned for install. Please remove.

Commented [EM39]: Real Alloy submitted on off-permit change October 6, 2023, for this addition so please update now.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. PM, PM_{10}, $PM_{2.5}$, HCl, D/F, VOC, THC, opacity, and CO emissions, measured by applicable reference methods, or an equivalent or alternative method specified in 40 C.F.R. Chapter I, or by a test method specified in the state implementation plan shall not exceed the respective limitations specified herein.

3. *Secondary aluminum processing units*. If the permittee cannot or chooses not to demonstrate compliance with the applicable individual emission limitations under 40 CFR 63, Subpart RRR referenced in **SECTION B** above, the permittee shall comply with the emission limits calculated using the equations for PM, HCl, and D/F in 40 CFR 63.1505(k)(1) through (3) for each secondary aluminum processing unit (SAPU) at the secondary aluminum production facility. [40 CFR 63.1505(k)]
   a. The permittee shall not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of PM, HCl, or D/F in excess of: [40 CFR 63.1505(k)(1)(3)]

$$L_{c_{PM,HCl,D/F}} = \frac{\sum_{i=1}^{n} (L_{ti_{PM,HCl,D/F}} \times T_{ti})}{\sum_{i=1}^{n} (T_{ti})}$$

Where:

$Lti_{PM,HCl,D/F}$ = the PM, HCl, or D/F emission limit for individual emission unit *i* in 40 CFR 63.1505(i)(1) and (2) for a group 1 furnace;

Tti = the mass of feed/charge for 24 hours for individual emission unit i; and

$Lc_{PM,HCl,D/F}$ = the daily PM, HCl, or D/F emission limit for the secondary aluminum processing unit which is used to calculate the 3-day, 24-hour PM emission limit applicable to the SAPU.

NOTE: Clean charge furnaces cannot be included in the D/F calculation since they are not subject to the D/F limit.

Compliance Demonstration Method:

The permittee shall use the procedures in 40 CFR 63.1513(e)(1), (2), and (3) or the procedure in (e)(4) to determine compliance with emission limits for a secondary aluminum processing unit. [40 CFR 63.1513(e)]

1) The permittee shall use the following equations to compute the mass-weighted PM, HCl, and D/F emissions for a secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit ($Ec_{PM,HCl,D/F}$) is less than or equal to the emission limit for the secondary aluminum processing unit ($Lc_{PM,HCl,D/F}$) calculated using Equation 1, 2, and 3 in 40 CFR 63.1505(k). [40 CFR 63.1513(e)(1) – (3)

$$E_{c_{PM,HCl,D/F}} = \frac{\sum_{i=1}^{n} (E_{ti_{PM,HCl,D/F}} \times T_{ti})}{\sum_{i=1}^{n} (T_{ti})}$$

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Where:

$Ec_{PM,HCl,D/F}$ = The mass-weighted PM, HCl, or D/F emissions for the secondary aluminum processing unit;

$Eti_{PM,HCl,D/F}$ = Measured PM, HCl, or D/F emissions for individual emission unit, or group of co-controlled emission units, i;

Tti = The average feed rate for individual emission unit i during the operating cycle or performance test period, or the sum of the average feed rates for all emission units in the group of co-controlled emission units i; and

n = The number of emission units, and groups of co-controlled emission units in the secondary aluminum processing unit.

2) As an alternative to using the equations in 40 CFR 63.1513(e)(1), (2), and (3), the permittee may demonstrate compliance for a secondary aluminum processing unit by demonstrating that each existing group 1 furnace is in compliance with the emission limits for a new group 1 furnace in 40 CFR 63.1505(i). [40 CFR 63.1513(e)(4)]

b. When group 1 furnaces are included in a single existing SAPU or new SAPU, and the emissions from more than one emission unit within that existing SAPU or new SAPU are manifolded to a single control device, compliance for all units within the SAPU is demonstrated if the total measured emissions from all controlled and uncontrolled units in the SAPU do not exceed the emission limits calculated for that SAPU based on the applicable equation in 40 CFR 63.1505(k). [40 CFR 63.1511(h)]

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

2. For EU02, EU03, EU04, EU13, EU14, & EU16~~, EU18~~:
   a. The permittee shall: [40 CFR 63.1510(d)]
      i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]
      ii. Inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. This inspection shall include a volumetric flow rate measurement taken at a location in the ductwork downstream of the hoods that is representative of the actual volumetric flow rate without interference due to leaks, ambient air added for cooling or ducts from other hoods. The flow rate measurement must be performed in accordance with 40 CFR 63.1510(d)(2)(i), (ii), or (iii). As an alternative to the flow rate measurement specified in this paragraph, the inspection may satisfy the requirements of this paragraph, including the operating requirements in 40 CFR 63.1506(c), by including permanent total enclosure verification in accordance with 40 CFR 63.1510(d)(2)(i) or (iv). Inspections that fail to successfully demonstrate that the requirements of 40 CFR 63.1506(c) are met, must be followed by repair or adjustment to the system operating conditions and a follow up inspection within 45 days to demonstrate that 40 CFR 63.1506(c) requirements are fully met. [40 CFR 63.1510(d)(2)]
         1) Conduct annual flow rate measurements using U.S. EPA Methods 1 and 2 in 40 CFR 60, Appendix A, or conduct annual verification of a permanent total enclosure using U.S. EPA Method 204; or the permittee may follow one of the three alternate procedures described in 40 CFR 63.1510(d)(2)(ii), (iii), or (iv) to maintain system operations in accordance with an operating limit established during the performance test. The operating limit is determined as the average reading of a parametric monitoring instrument (Magnehelic®, manometer, anemometer, or other parametric monitoring instrument) and technique as described in 40 CFR 63.1510(d)(2)(ii), (iii), and (iv). A deviation, as defined in 40 CFR 63.1510(d)(2)(ii), (iii), and (iv), from the parametric monitoring operating limit requires the permittee to make repairs or adjustments to restore normal operation within 45 days. [40 CFR 63.1510(d)(2)(i)]
         2) As an alternative to annual flow rate measurements using U.S. EPA Methods 1 and 2, measurement with U.S. EPA Methods 1 and 2 can be performed once every 5 years, provided that: [40 CFR 63.1510(d)(2)(ii)]
            (A) A flow rate indicator consisting of a pitot tube and differential pressure gauge (Magnehelic®, manometer or other differential pressure gauge) is installed with the pitot tube tip located at a representative point of the duct proximate to

Commented [EM40]: Please remove with the removal of Rotary Furnace (RA1).

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS (CONTINUED)

the location of the Methods 1 and 2 measurement site; and [40 CFR 63.1510(d)(2)(ii)(A)]

(B) The flow rate indicator is installed and operated in accordance with the manufacturer's specifications; and [40 CFR 63.1510(d)(2)(ii)(B)]

(C) The differential pressure is recorded during the Method 2 performance test series; and [40 CFR 63.1510(d)(2)(ii)(C)]

(D) Daily differential pressure readings are made by taking three measurements with at least 5 minutes between each measurement and averaging the three measurements; and readings are recorded daily and maintained at or above 90 percent of the average pressure differential indicated by the flow rate indicator during the most recent Method 2 performance test series; and [40 CFR 63.1510(d)(2)(ii)(D)]

(E) An inspection of the pitot tube and associated lines for damage, plugging, leakage and operational integrity is conducted at least once per year; or [40 CFR 63.1510(d)(2)(ii)(E)]

3) As an alternative to annual flow rate measurements using EPA Methods 1 and 2, measurement with EPA Methods 1 and 2 can be performed once every 5 years, provided that: [40 CFR 63.1510(d)(2)(iii)]

(A) Daily measurements of the capture and collection system's fan revolutions per minute (RPM) or fan motor amperage (amps) are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at or above 90 percent of the average RPM or amps measured during the most recent Method 2 performance test series; or [40 CFR 63.1510(d)(2)(iii)(A)]

(B) A static pressure measurement device is installed in the duct immediately downstream of the hood exit, and daily pressure readings are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or better of the average vacuum recorded during the most recent Method 2 performance test series; or [40 CFR 63.1510(d)(2)(iii)(B)]

(C) A hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple and automated data logging software and associated hardware is installed; and daily readings are made by taking three measurements with at least 5 minutes between each measurement, and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or greater of the average readings during the most recent Method 2 performance test series; or [40 CFR 63.1510(d)(2)(iii)(C)]

(D) For booth-type hoods, hotwire anemometer measurements of hood face velocity are performed simultaneously with U.S. EPA Method 1 and 2 measurements, and the annual hood face velocity measurements confirm that the enclosure draft is maintained at 90 percent or greater of the average readings during the most recent Method 2 performance test series. Daily readings are made by taking three measurements with at least 5 minutes between each measurement,

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS (CONTINUED)

and averaging the three measurements; and readings are recorded daily and maintained at 90 percent or greater of the average readings during the most recent Method 1 and 2 performance test series. [40 CFR 63.1510(d)(2)(iii)(D)]

4) As an alternative to the annual verification of a permanent total enclosure using U.S. EPA Method 204, verification can be performed once every 5 years, provided that: [40 CFR 63.1510(d)(2)(iv)]
   (A) Negative pressure in the enclosure is directly monitored by a pressure indicator installed at a representative location; [40 CFR 63.1510(d)(2)(iv)(A)]
   (B) Pressure readings are recorded daily or the system is interlocked to halt material feed should the system not operate under negative pressure; [40 CFR 63.1510(d)(2)(iv)(B)]
   (C) An inspection of the pressure indicator for damage and operational integrity is conducted at least once per calendar year. [40 CFR 63.1510(d)(2)(iv)(C)]

3. The permittee shall calibrate or replace any monitoring devices (i.e. pressure drop monitoring equipment) for the control equipment in **SECTION E.2.** in a manner consistent with the manufacturer's recommendations or, at a minimum, annually. [401 KAR 52:020, Section 10]

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b-IV-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five (5) years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b-IV-2 and 1a-8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020, Section 3(1)h, the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

   Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Sections 1b-V-1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020, Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken shall be submitted to the Regional Office listed on the front of this permit. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. Where the underlying applicable requirement does not identify a specific time frame for reporting deviations, prompt reporting, as required by Sections 1b-V, 3 and 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, shall be defined as follows:
   a. For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
   b. For emissions of any regulated air pollutant, excluding those listed in F.8.a., that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
   c. All deviations from permit requirements, including those previously reported, shall be included in the semiannual report required by F.6.

9. Pursuant to 401 KAR 52:020, Title V permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

f. The certification shall be submitted by January 30th of each year. Annual compliance certifications shall be sent to the following addresses:

Division for Air Quality	U.S. EPA Region 4
Bowling Green Regional Office	Air Enforcement Branch
2642 Russellville Road	Atlanta Federal Center
Bowling Green, KY 42101	61 Forsyth St. SW
	Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the Kentucky Emissions Inventory System (KYEIS) emissions survey is mailed to the permittee.

SECTION G - GENERAL PROVISIONS

1. General Compliance Requirements

   a. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020, Section 3(1)(b), and a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act). Noncompliance with this permit is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a-3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

   b. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a-6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

   c. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
      (1) If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
      (2) The Cabinet or the United States Environmental Protection Agency (U. S. EPA) determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
      (3) The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
      (4) New requirements become applicable to a source subject to the Acid Rain Program.

      Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

   d. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Sections 1a- 7 and 8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

   e. Emission units described in this permit shall demonstrate compliance with applicable requirements if requested by the Division [401 KAR 52:020, Section 3(1)(c)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

f. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

g. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a-14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

h. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a-4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

i. All emission limitations and standards contained in this permit shall be enforceable as a practical matter. All emission limitations and standards contained in this permit are enforceable by the U.S. EPA and citizens except for those specifically identified in this permit as state-origin requirements. [Section 1a-15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

j. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a-10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

k. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3) b.].

l. This permit does not convey property rights or exclusive privileges [Section 1a-9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

m. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Cabinet or any other federal, state, or local agency.

n. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3) d.].

o. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3) a.].

SECTION G - GENERAL PROVISIONS (CONTINUED)

p. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

q. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of this permit shall be considered compliance with:
(1) Applicable requirements that are included and specifically identified in this permit; and
(2) Non-applicable requirements expressly identified in this permit.

2. Permit Expiration and Reapplication Requirements

a. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six (6) months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

b. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020, Section 8(2)].

3. Permit Revisions

a. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the State Implementation Plan (SIP) or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

b. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

4. Construction, Start-Up, and Initial Compliance Demonstration Requirements

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission units EU18 - Rotary Furnace (RA1), EU19 - Holding Furnace, IA-26 - DeOx Casting Line Preheater, and IA-27 -

SECTION G - GENERAL PROVISIONS (CONTINUED)

Charge Car on Rails, and EU20 – Salt-Cake Pre-Processing Operation, in accordance with the terms and conditions of permit V-19-026 R1.

a. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

b. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, notification of the following:
   (1) The date when construction commenced.
   (2) The date of start-up of the affected facilities listed in this permit.
   (3) The date when the maximum production rate specified in the permit application was achieved.

c. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

d. Pursuant to 401 KAR 50:055, Section 2(1)(a), an owner or operator of any affected facility subject to any standard within the administrative regulations of the Division for Air Quality shall demonstrate compliance with the applicable standard(s) within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial start-up of such facility. Pursuant to 401 KAR 52:020, Section 3(3)(c), sources that have not demonstrated compliance within the timeframes prescribed in 401 KAR 50:055, Section 2(1)(a), shall operate the affected facility only for purposes of demonstrating compliance unless authorized under an approved compliance plan or an order of the cabinet.

e. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. Testing must also be conducted in accordance with General Provisions G.5 of this permit.

f. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

SECTION G - GENERAL PROVISIONS (CONTINUED)

5. Testing Requirements

   a. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least thirty (30) days prior to the test.

   b. Pursuant to 401 KAR 50:045, Section 5, in order to demonstrate that a source is capable of complying with a standard at all times, any required performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.

   c. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days or sooner if required by an applicable standard, after the completion of the fieldwork.

6. Acid Rain Program Requirements

   a. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

   b. The permittee shall comply with all applicable requirements and conditions of the Acid Rain Permit and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) incorporated into the Title V permit issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

7. Emergency Provisions

   a. Pursuant to 401 KAR 52:020, Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
      (1) An emergency occurred and the permittee can identify the cause of the emergency;

SECTION G - GENERAL PROVISIONS (CONTINUED)

(2) The permitted facility was at the time being properly operated;
(3) During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
(4) Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.1-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
(5) This requirement does not relieve the source of other local, state or federal notification requirements.

b. Emergency conditions listed in General Condition G.7.a above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

c. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

8. Ozone Depleting Substances

a. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
(1) Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
(2) Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
(3) Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.155.
(5) Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156 and 40 CFR 82.157.
(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

b. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION G - GENERAL PROVISIONS (CONTINUED)

9. Risk Management Provisions

   a. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to U.S. EPA using the RMP* eSubmit software.

   b. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION H - ALTERNATE OPERATING SCENARIOS

~~The alternate operating scenarios set forth below have been approved by the Division based on information supplied with the application and during the application review process. The terms and conditions of each alternate operating scenario have been developed to ensure compliance with the applicable regulations. The permittee, when making a change from one operating scenario to another, shall record contemporaneously in a log at the permitted facility a record of the scenario under which the facility is operating. The permit shield, as provided in Section G shall extend to each alternate operating scenario set forth in this Section. All conditions not specified under an alternate operating scenario shall remain unchanged from their permit values or requirements.~~

~~ALTERNATE OPERATING SCENARIO 1~~

~~The following operating scenario authorizes the operation of the existing emission unit below until startup of the new unit replacing EU04 (EU18) is completed, after which, EU04 shall no longer be operated. EU04 and EU18 shall not operate at the same time.~~None.

Commented [EM41]: Rotary Furnace #5 is no longer planned for replacement but rather modification. Please move back into Section B.

~~Emission Unit 04 (EU04) – Rotary Furnace #5~~

~~Description:~~ ~~The custom-built, natural gas-fired, rotary aluminum furnace melts scrap in batches. This unit is classified as an existing Group 1 furnace melting other than clean charge using reactive flux under 40 CFR 63, Subpart RRR. This is the only unit in the only existing SAPU at the facility.~~

~~Maximum Capacity: 100.8 tons of aluminum/day~~
~~Maximum Firing Rate: 14 MMBtu/hr~~
~~Control Device: Lime-Injected Baghouse~~
~~Construction Commenced: 1990~~

~~APPLICABLE REGULATIONS:~~
~~401 KAR 59:010, New process operations~~
~~401 KAR 63:002, Section 2(4)(eee) 40 C.F.R. 63.1500 to 63.1519, Tables 1 to 3, and Appendix A (Subpart RRR),~~ ~~*National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*~~

~~8. Operating Limitations:~~

~~a. The permittee must operate all new and existing affected sources and control equipment according to the requirements in 40 CFR 63.1500. [40 CFR 63.1506(a)(1)]~~

~~b. At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.1506(a)(5)]~~

~~c. The permittee must provide and maintain easily visible labels posted at each group 1 furnace that identifies the applicable emission limits and means of compliance, including: [40 CFR 63.1506(b)]~~

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

i. The type of affected source or emission unit (*e.g.*, group 1 furnace). [40 CFR 63.1506(b)(1)]

ii. The applicable operational standard(s) and control method(s)(work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan. [40 CFR 63.1506(b)(2)]

d. For each affected source or emission unit equipped with an add-on air pollution control device, the permittee must: [40 CFR 63.1506(e)]

i. Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates or facial inlet velocities as contained in the ACGIH Guidelines (incorporated by reference, see 40 CFR 63.14); [40 CFR 63.1506(e)(1)]

ii. Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and [40 CFR 63.1506(e)(2)]

iii. Operate each capture/collection system according to the procedures and requirements in the OM&M plan. [40 CFR 63.1506(e)(3)]

e. The permittee of each affected source or emission unit subject to an emission limit in kg/Mg (lb/ton) or µg/Mg (gr/ton) of feed/charge must: [40 CFR 63.1506(d)]

i. Except as provided in 40 CFR 63.1506(d)(3), install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test; and [40 CFR 63.1506(d)(1)]

ii. Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan. [40 CFR 63.1506(d)(2)]

iii. The permittee may choose to measure and record aluminum production weight from an affected source or emission unit rather than feed/charge weight to an affected source or emission unit, provided that: [40 CFR 63.1506(d)(3)]

1) The aluminum production weight, rather than feed/charge weight is measured and recorded for all emission units within a SAPU; and [40 CFR 63.1506(d)(3)(i)]

2) All calculations to demonstrate compliance with the emission limits for SAPUs are based on aluminum production weight rather than feed/charge weight. [40 CFR 63.1506(d)(3)(ii)]

f. The permittee of a group 1 furnace with emissions controlled by a lime-injected fabric filter must: [40 CFR 63.1506(m)]

i. If a bag leak detection system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(1)]

1) Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)(i)]

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)(ii)]

3) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the permittee to initiate corrective action. [40 CFR 63.1506(m)(1)(iii)]

ii. If a continuous opacity monitoring system is used to meet the monitoring requirements in 40 CFR 63.1510, the permittee must: [40 CFR 63.1506(m)(2)]

1) Initiate corrective action within 1 hour of any 6-minute average reading of 5 percent or more opacity; and [40 CFR 63.1506(m)(2)(i)]

2) Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(2)(ii)]

iii. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F). [40 CFR 63.1506(m)(3)]

iv. For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test. [40 CFR 63.1506(m)(4)]

v. Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]

g. When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the permittee must initiate corrective action. Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation. [40 CFR 63.1506(p)]

h. The permittee shall prepare and implement for each group 1 furnace, a written operation, maintenance, and monitoring (OM&M) plan. The permittee shall submit the OM&M plan to the Division within 90 days after a successful initial performance test under 40 CFR 63.1511(b). The plan must be accompanied by a written certification by the permittee that the OM&M plan satisfies all requirements of 40 CFR 63.1510(b), and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the procedures in **6. Specific Reporting Requirements (a)**. Each plan shall contain the following information: [40 CFR 63.1510(b)]

i. Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device. [40 CFR 63.1510(b)(1)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

viii. A monitoring schedule for each affected source and emission unit. [40 CFR 63.1510(b)(2)]

ix. Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in 40 CFR 63.1505. [40 CFR 63.1510(b)(3)]

x. Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including: [40 CFR 63.1510(b)(4)]

1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and [40 CFR 63.1510(b)(4)(i)]

2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in 40 CFR 63, Subpart A. [40 CFR 63.1510(b)(4)(ii)]

xi. Procedures for monitoring process and control device parameters, including lime injection rates, procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used. [40 CFR 63.1510(b)(5)]

xii. Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including: [40 CFR 63.1510(b)(6)]

1) Procedures to determine and record the cause of any deviation or excursion, and the time the deviation or excursion began and ended; and [40 CFR 63.1510(b)(6)(i)]

2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed. [40 CFR 63.1510(b)(6)(ii)]

xiii. A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance. [40 CFR 63.1510(b)(7)]

l. With the prior approval of the Division, the permittee may redesignate any existing group 1 furnace at a secondary aluminum production facility as a new emission unit. Any emission unit so redesignated may thereafter be included in a new SAPU at that facility. Any such redesignation will be solely for the purpose of 40 CFR 63, Subpart RRR and will be irreversible. [40 CFR 63.1505(k)(6)]

Compliance Demonstration Method:
Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

m. Prior to changing furnace classifications to those not already authorized in **SECTION H**, the permittee shall submit a permit application to incorporate the applicable standards from 40 CFR 63, Subpart RRR. [401 KAR 52:020, Section 7]

n. The permittee shall not operate EU04 after EU18 begins operating.

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

9. Emission Limitations:

a. The permittee must comply at all times with each applicable limit in 40 CFR 63.1505, including periods of startup and shutdown. Table 1 to 40 CFR 63, Subpart RRR summarizes the emission standards for each type of source. [40 CFR 63.1505(a)]

b. The permittee shall not allow the emissions from EU04 to exceed the following limits: [40 CFR 63.1505(i)]

i. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge; [40 CFR 63.1505(i)(1)]

ii. 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge; and [40 CFR 63.1505(i)(3)]

iii. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or, if the furnace is equipped with an add-on air pollution control device, 10 percent of the uncontrolled HCl emissions, by weight. [40 CFR 63.1505(i)(4)]

iv. The permittee shall not discharge or cause to be discharged to the atmosphere visible emissions in excess of 10 percent opacity from any PM add-on air pollution control device if a COM is chosen as the monitoring option. [40 CFR 63.1505(i)(5)]

v. The permittee may apply the group 1 furnace limits on the basis of the aluminum production weight in the group 1 furnace, rather than on the basis of feed/charge. [40 CFR 63.1505(i)(6)]

Compliance Demonstration Method:

E. *PM and HCl emission limits.* Use Equation 7 to determine compliance with an emission limit for PM or HCl. [40 CFR 63.1513(b)(1)]

$$E = \frac{C \times Q \times K_1}{P} \qquad \text{(Eq. 7)}$$

Where:

E = Emission rate of PM or HCl, kg/Mg (lb/ton) of feed;

C = Concentration of PM or HCl, g/dscm (gr/dscf);

Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr);

K_1 = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and

P = Production rate, Mg/hr (ton/hr).

F. *D/F emission limits.* Use Equation 7A to determine compliance with an emission limit for D/F. [40 CFR 63.1513(b)(2)]

$$E = \frac{C \times Q}{P} \qquad \text{(Eq. 7A)}$$

Where:

E = Emission rate of D/F, µg/Mg (gr/ton) of feed;

C = Concentration of D/F, µg/dscm (gr/dscf);

Q = Volumetric flow rate of exhaust gases, dscm/hr (dscf/hr); and

P = Production rate, Mg/hr (ton/hr).

G. *Periods of startup and shutdown*: For a new or existing affected source, or a new or existing emission unit subject to an emissions limit in 40 CFR 63.1505(b) through (j) expressed in units of pounds per ton of feed/charge, or µg TEQ or ng TEQ per Mg of feed/charge, demonstrate compliance during periods of startup and shutdown in accordance 40 CFR 63.1513(f)(1) or determine the emissions per unit of feed/charge

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(2). [40 CFR 63.1513(f)]

I. For periods of startup and shutdown, records establishing a feed/charge rate of zero, a flux rate of zero, and that the affected source or emission unit was either heated with electricity, propane or natural gas as the sole sources of heat or was not heated, may be used to demonstrate compliance with the emission limit, or [40 CFR 63.1513(f)(1)]

II. For periods of startup and shutdown, divide the measured emissions in lb/hr or µg/hr or ng/hr by the feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data are available. [40 CFR 63.1513(f)(2)]

H. Refer to **3. Testing Requirements**, **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements** and **6. Specific Reporting. Requirements**.

c. The permittee shall not cause, suffer, allow, or permit any continuous emission into the open air from a control device or stack associated with any affected facility which is equal to or greater than twenty (20) percent opacity. [401 KAR 59:010, Section 3(1)(a)]

Compliance Demonstration Method:

Compliance is assumed when meeting the requirements of 40 CFR 63, Subpart RRR in **4. Specific Monitoring Requirements**, **5. Specific Recordkeeping Requirements**, and **6. Specific Reporting Requirements**.

d. For emissions from a control device or stack, no person shall not cause, suffer, allow or permit the emission into the open air of particulate matter from any affected facility which is in excess of the quantity specified in Appendix A to 401 KAR 59:010. [401 KAR 59:010, Section 3(2)]

i. For process weight rates of 0.50 ton/hr or less: 2.34 lbs/hr

ii. For process weight rates up to 30 tons/hr: $E=3.59P^{0.62}$.

Where:

E = the allowable PM emissions rate (lbs/hr)

P = the process weight rate (tons/hr)

Compliance Demonstration Method:

Compliance is assumed when complying with the PM emission standard under 40 CFR 63, Subpart RRR.

10. Testing Requirements:

a. Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the permittee must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7. Performance tests shall be conducted under such conditions as the Administrator specifies to the permittee based on representative performance of the affected source for the period being tested. Upon request, the permittee shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. [40 CFR 63.1511(a)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

b. The permittee must conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(e). [40 CFR 63.1511(b)]
   i. The performance tests must be conducted under representative conditions expected to produce the highest level of HAP emissions expressed in the units of the emission standards for the HAP (considering the extent of feed/charge contamination, reactive flux addition rate and feed/charge rate). If a single test condition is not expected to produce the highest level of emissions for all HAP, testing under two or more sets of conditions (for example high contamination at low feed/charge rate, and low contamination at high feed/charge rate) may be required. Any subsequent performance tests for the purposes of establishing new or revised parametric limits shall be allowed upon pre-approval from the Division. These new parametric settings shall be used to demonstrate compliance for the period being tested. [40 CFR 63.1511(b)(1)]
   ii. Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours. [40 CFR 63.1511(b)(2)]
   iii. Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter. [40 CFR 63.1511(b)(4)]
   iv. Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard. [40 CFR 63.1511(b)(5)]
   v. Apply 40 CFR 63.1511(b)(1) through (5) for each pollutant separately if a different production rate or charge material would apply and thereby result in a higher expected emissions rate for that pollutant. [40 CFR 63.1511(b)(6)]
   vi. The permittee may not conduct performance tests during periods of malfunction. [40 CFR 63.1511(b)(7)]

c. The permittee must use the following methods in Appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits or standards: [40 CFR 63.1511(c)]
   i. Method 1 for sample and velocity traverses. [40 CFR 63.1511(c)(1)]
   ii. Method 2 for velocity and volumetric flow rate. [40 CFR 63.1511(c)(2)]
   iii. Method 3 for gas analysis. [40 CFR 63.1511(c)(3)]
   iv. Method 4 for moisture content of the stack gas. [40 CFR 63.1511(c)(4)]
   v. Method 5 for the concentration of PM. [40 CFR 63.1511(c)(5)]
   vi. Method 23 for the concentration of D/F. [40 CFR 63.1511(c)(7)]
   vii. Method 26A for the concentration of HCl. Method 26 may also be used, except at sources where entrained water droplets are present in the emission stream. [40 CFR 63.1511(c)(9)]

d. The permittee may use alternative test methods as provided in 40 CFR 63.1511(d)(1) through (3). [40 CFR 63.1511(d)]

e. The permittee must conduct a performance test every 5 years following the initial performance test. [40 CFR 63.1511(e)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

f. The permittee must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the permittee must use the appropriate procedures in 40 CFR 63.1511 and submit the information required by 40 CFR 63.1515(b)(4) in the notification of compliance status report. The permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the Division. [40 CFR 63.1511(g)]

i. The complete emission test report(s) used as the basis of the parameter(s) is submitted. [40 CFR 63.1511(g)(1)]

ii. The same test methods and procedures as required by 40 CFR 63, Subpart RRR were used in the test. [40 CFR 63.1511(g)(2)]

iii. The permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report. [40 CFR 63.1511(g)(3)]

iv. All process and control equipment operating parameters required to be monitored were monitored as required in 40 CFR 63, Subpart RRR and documented in the test report. [40 CFR 63.1511(g)(4)]

v. If the permittee wants to conduct a new performance test and establish different operating parameter values, they must submit a revised site specific test plan and receive approval in accordance with 40 CFR 63.1511(a). In addition to the results of the new performance test to establish operating parameter values, they must meet the requirements of 40 CFR 63.1511(g)(1) through (g)(4). [40 CFR 63.1511(g)(5)]

g. The permittee must conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit) or the inlet and the outlet (for the percent reduction standard). [40 CFR 63.1512(d)(1)]

h. The permittee may choose to determine the rate of reactive flux addition to the group 1 furnace and assume, for the purposes of demonstrating compliance with the SAPU emission limit, that all reactive flux added to the group 1 furnace is emitted. Under these circumstances, the permittee is not required to conduct an emission test for HCl. [40 CFR 63.1512(d)(3)]

i. During the emission test(s) conducted to determine compliance with emission limits in a kg/Mg (lb/ton) format, the permittee of an affected source or emission unit, subject to an emission limit in a kg/Mg (lb/ton) of feed/charge format, must measure (or otherwise determine) and record the total weight of feed/charge to the affected source or emission unit for each of the three test runs and calculate and record the total weight. A permittee that chooses to demonstrate compliance on the basis of the aluminum production weight must measure the weight of aluminum produced by the emission unit or affected source instead of the feed/charge weight. [40 CFR 63.1512(k)]

j. The permittee of an affected source or emission unit using a continuous opacity monitoring system must conduct a performance evaluation to demonstrate compliance with Performance Specification 1 in appendix B to 40 CFR part 60. Following the performance

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

evaluation, the permittee must measure and record the opacity of emissions from each exhaust stack for all consecutive 6-minute periods during the PM emission test. [40 CFR 63.1512(l)]

k. The permittee of a group 1 furnace using a lime-injected fabric filter must use these procedures to establish an operating parameter value or range for the inlet gas temperature. [40 CFR 63.1512(n)]
   i. Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests; [40 CFR 63.1512(n)(1)]
   ii. Determine and record the 15-minute block average temperatures for the 3 test runs; and [40 CFR 63.1512(n)(2)]
   iii. Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs. [40 CFR 63.1512(n)(3)]

l. The permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate: [40 CFR 63.1512(o)]
   i. Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15-minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(1)]
   ii. Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs; [40 CFR 63.1512(o)(2)]
   iii. Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5: [40 CFR 63.1512(o)(3)]

$$W_t = F_1 W_1 + F_2 W_2 \qquad (Eq.\ 5)$$

   Where,
   W_t = Total chlorine usage, by weight;
   F_1 = Fraction of gaseous or liquid flux that is chlorine;
   W_1 = Weight of reactive flux gas injected;
   F_2 = Fraction of solid reactive chloride flux that is chlorine (*e.g.*, F = 0.75 for magnesium chloride; and
   W_2 = Weight of solid reactive flux;
   iv. Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and [40 CFR 63.1512(o)(4)]
   v. If a solid reactive flux other than magnesium chloride is used, the permittee must derive the appropriate proportion factor subject to approval by the Division. [40 CFR 63.1512(o)(5)]

m. The permittee of an affected source or emission unit using a lime-injected fabric filter system must use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test. [40 CFR 63.1512(p)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

i. For continuous lime injection systems, ensure that lime in the feed hopper or silo is free flowing at all times; and [40 CFR 63.1512(p)(1)]

ii. Record the feeder setting for the 3 test runs. If the feed rate setting and lime injection rates vary between the runs, determine and record the average feed rate and lime injection rate from the 3 runs. [40 CFR 63.1512(p)(2)]

n. To convert D/F measurements to TEQ units, the permittee must use the procedures and equations in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update (EPA-625/3-89-016), incorporated by reference. Refer to 40 CFR 63.14 [40 CFR 63.1513(d)]

o. Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in 401 KAR 50:015 shall be conducted if required by the Cabinet.

11. Specific Monitoring Requirements:

a. The permittee must monitor all control equipment and processes according to the requirements in 40 CFR 63.1510. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR. [40 CFR 63.1510(a)]

b. The permittee shall prepare and implement for EU04, a written operation, maintenance, and monitoring (OM&M) plan. Refer to **1. Operating Limitations (h)** and **6. Specific Reporting Requirements (a)**, for OM&M plan requirements. [40 CFR 63.1510(b)]

c. The permittee must inspect the labels for each group 1 furnace at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible. [40 CFR 63.1510(c)]

d. The permittee shall: [40 CFR 63.1510(d)]

i. Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and [40 CFR 63.1510(d)(1)]

ii. Inspect the capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection. [40 CFR 63.1510(d)(2)]

iii. Meet the requirements in **SECTION E**.

e. The permittee must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from, the affected source or emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit by emission unit basis. As an alternative to a measurement device, the permittee may use a procedure acceptable to the Division to determine the total weight of feed/charge or aluminum production to the affected source or emission unit. [40 CFR 63.1510(e)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

i. The accuracy of the weight measurement device or procedure must be ±1 percent of the weight being measured. The permittee may apply to the permitting agency for approval to use a device of alternative accuracy if the required accuracy cannot be achieved as a result of equipment layout or charging practices. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standard. [40 CFR 63.1510(e)(1)]

ii. The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(e)(2)]

f. These requirements apply to the permittee of a group 1 furnace (with or without add-on air pollution control devices). The permittee must: [40 CFR 63.1510(j)]

i. Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected source or emission unit. [40 CFR 63.1510(j)(1)]

1) The monitoring system must record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. [40 CFR 63.1510(j)(1)(i)]

2) The accuracy of the weight measurement device must be ±1 percent of the weight of the reactive component of the flux being measured. The permittee may apply to the Division for permission to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of ±1 percent impracticable. A device of alternative accuracy will not be approved unless the permittee provides assurance through data and information that the affected source will meet the relevant emission standards. [40 CFR 63.1510(j)(1)(ii)]

3) The permittee must verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months. [40 CFR 63.1510(j)(1)(iii)]

ii. Calculate and record the gaseous or liquid reactive flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(2)]

iii. Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of: [40 CFR 63.1510(j)(3)]

1) Gaseous or liquid reactive flux other than chlorine; and [40 CFR 63.1510(j)(3)(i)]

2) Solid reactive flux. [40 CFR 63.1510(j)(3)(ii)]

iv. Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o). [40 CFR 63.1510(j)(4)]

v. The permittee of a group 1 furnace or in-line fluxer performing reactive fluxing may apply to the Division for approval of an alternative method for monitoring and recording the total reactive flux addition rate based on monitoring the weight or quantity of reactive flux per ton of feed/charge for each operating cycle or time period used in the performance test. An alternative monitoring method will not be approved unless the permittee provides assurance through data and information that the affected

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

source will meet the relevant emission standards on a continuous basis. [40 CFR 63.1510(j)(5)]

g. The permittee shall monitor the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

h. Refer to **SECTION F** for general monitoring requirements.

12. Specific Recordkeeping Requirements:

a. As required by 40 CFR 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and 40 CFR 63, Subpart RRR. [40 CFR 63.1517(a)]
   i. The permittee must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site. [40 CFR 63.1517(a)(1)]
   ii. The permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche; and [40 CFR 63.1517(a)(2)]
   iii. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software. [40 CFR 63.1517(a)(3)]

b. In addition to the general records required by 40 CFR 63.10(b), the permittee of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of: [40 CFR 63.1517(b)]
   i. For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter: [40 CFR 63.1517(b)(1)]
      1) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken. [40 CFR 63.1517(b)(1)(i)]
      2) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken. [40 CFR 63.1517(b)(1)(ii)]
   ii. For each scrap dryer/delacquering kiln/decoating kiln and group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken. [40 CFR 63.1517(b)(3)]
   iii. For each affected source and emission unit with emissions controlled by a lime-injected fabric filter: [40 CFR 63.1517(b)(4)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

1) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken; [40 CFR 63.1517(b)(4)(i)]

2) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken. If a lime feeder has been repaired or replaced, this action must be documented along with records of the new feeder calibration and the feed mechanism set points necessary to maintain the lb/hr feed rate operating limit. These records must be maintained on site and available upon request. [40 CFR 63.1517(b)(4)(ii)]

iv. For each group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken. [40 CFR 63.1517(b)(5)]

v. For each continuous monitoring system, records required by 40 CFR 63.10(c). [40 CFR 63.1517(b)(6)]

vi. For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test. [40 CFR 63.1517(b)(7)]

vii. Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements. [40 CFR 63.1517(b)(13)]

viii. Records of annual inspections of emission capture/collection and closed vent systems or, if the alternative to the annual flow rate measurements is used, records of differential pressure; fan RPM or fan motor amperage; static pressure measurements; or duct centerline velocity using a hotwire anemometer, ultrasonic flow meter, cross-duct pressure differential sensor, venturi pressure differential monitoring or orifice plate equipped with an associated thermocouple, as appropriate. [40 CFR 63.1517(b)(14)]

ix. Records for any approved alternative monitoring or test procedure. [40 CFR 63.1517(b)(15)]

x. Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including: [40 CFR 63.1517(b)(16)]

1) OM&M plan; and [40 CFR 63.1517(b)(16)(ii)]

2) Site-specific secondary aluminum processing unit emission plan (as applicable). [40 CFR 63.1517(b)(16)(iii)]

xi. For any failure to meet an applicable standard, the permittee must maintain the following records; [40 CFR 63.1517(b)(18)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

1) Records of the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken. [40 CFR 63.1517(b)(18)(i)]
2) Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.1506(a)(5), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. [40 CFR 63.1517(b)(18)(ii)]

xii. For each period of startup or shutdown for which the permittee chooses to demonstrate compliance for an affected source, the permittee must comply with 40 CFR 63.1517(b)(19)(i) or (ii). [40 CFR 63.1517(b)(19)]

1) To demonstrate compliance based on a feed/charge rate of zero, a flux rate of zero and the use of electricity, propane or natural gas as the sole sources of heating or the lack of heating, the permittee must submit a semiannual report in accordance with 40 CFR 63.1516(b)(2)(vii) or maintain the following records: [40 CFR 63.1517(b)(19)(i)]
   A. The date and time of each startup ad shutdown; [40 CFR 63.1517(b)(19)(i)(A)]
   B. The quantities of feed/charge and flux introduced during each startup and shutdown; and [40 CFR 63.1517(b)(19)(i)(B)]
   C. The types of fuel used to heat the unit, or that no fuel was used, during startup and shutdown; or [40 CFR 63.1517(b)(19)(i)(C)]
2) To demonstrate compliance based on performance tests, the permittee must maintain the following records: [40 CFR 63.1517(b)(19)(ii)]
   A. The date and time of each startup and shutdown; [40 CFR 63.1517(b)(19)(ii)(A)]
   B. The measured emission in lb/hr or µg/hr or ng/hr; [40 CFR 63.1517(b)(19)(ii(B)]
   C. The measured feed/charge rate in tons/hr or Mg/hr from the most recent performance test associated with a production rate greater than zero, or the rated capacity of the affected source if no prior performance test data is available; and [40 CFR 63.1517(b)(19)(ii)(C)]
   D. An explanation to support that such conditions are considered representative startup and shutdown operations. [40 CFR 63.1517(b)(19)(ii)(D)]

c. The permittee shall maintain records of the following: [401 KAR 52:020, Section 10]
   i. The monthly throughput in tons; and
   ii. The monthly natural gas usage in MMscf.

d. Refer to **SECTION F** for general recordkeeping requirements.

13. Specific Reporting Requirements:

a. The permittee shall comply with all of the provisions of the OM&M plan as submitted to the Division, unless and until the plan is revised in accordance with the following procedures: [40 CFR 63.1510(b)]
   i. If the Division determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510(b) or 40 CFR 63, Subpart RRR, the permittee shall promptly make all necessary revisions and resubmit the revised plan.

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

ii. If the permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the permittee submits a description of the changes and a revised plan incorporating them to the Division.

b. Within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the permittee shall include the following information: [40 CFR 63.1510(s)(1)]
   i. The identification of each emission unit in the SAPU; [40 CFR 63.1510(s)(1)(i)]
   ii. The specific control technology or pollution prevention measure to be used for each emission unit in the SAPU and the date of its installation or application; [40 CFR 63.1510(s)(1)(ii)]
   iii. The emission limit calculated for each SAPU and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit; [40 CFR 63.1510(s)(1)(iii)]
   iv. Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63, Subpart RRR; and [40 CFR 63.1510(s)(1)(iv)]
   v. The monitoring requirements applicable to each emission unit in a SAPU and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t). [40 CFR 63.1510(s)(1)(v)]

c. The SAPU compliance procedures within the OM&M plan may not contain any of the following provisions: [40 CFR 63.1510(s)(2)]
   i. Any averaging among emissions of differing pollutants; [40 CFR 63.1510(s)(2)(i)]
   ii. The inclusion of any affected sources other than emission units in a secondary aluminum processing unit; [40 CFR 63.1510(s)(2)(ii)]
   iii. The inclusion of any emission unit while it is shutdown; or [40 CFR 63.1510(s)(2)(iii)]
   iv. The inclusion of any periods of startup or shutdown in emission calculations. [40 CFR 63.1510(s)(2)(iv)]

d. To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the permittee shall submit a request to the Division containing the information required by 40 CFR 63.1510(s)(1), above, and obtain approval of the Division prior to implementing any revisions. [40 CFR 63.1510(s)(3)]

e. Except as provided in 40 CFR 63.1510(u), the permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit (SAPU) on a daily basis. [40 CFR 63.1510(t)]

f. As an alternative to the procedures of 40 CFR 63.1510(t), the permittee may demonstrate, through performance tests, that each individual emission unit within the secondary aluminum production unit (SAPU) is in compliance with the applicable emission limits for the emission unit. [40 CFR 63.1510(u)]

g. If the permittee wishes to use an alternative monitoring method to demonstrate compliance with any emission standard in 40 CFR 63, Subpart RRR, other than those alternative monitoring methods which may be authorized pursuant to 40 CFR 63.1510(j)(5) and 40 CFR 63.1510(v), the permittee may submit an application to the Administrator. Any such

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

application will be processed according to the criteria and procedures set forth in 40 CFR 63.1510(w)(1) through (6). [40 CFR 63.1510(w)]

h. As required by 40 CFR 63.9(e) and (f), the permittee must provide notification of the anticipated date for conducting performance tests and visible emission observations. The permittee must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place. [40 CFR 63.1515(a)(6)]

i. As required by 40 CFR 63.9(g), the permittee must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems. [40 CFR 63.1515(a)(7)]

j. The permittee must submit semiannual reports according to the requirements in 40 CFR 63.10(e)(3). Except, the permittee must submit the semiannual reports within 60 days after the end of each 6-month period instead of within 30 days after the calendar half as specified in 40 CFR 63.10(e)(3)(v). When no deviations of parameters have occurred, the permittee must submit a report stating that no excess emissions occurred during the reporting period. [40 CFR 63.1516(b)]

i. A report must be submitted if any of these conditions occur during a 6-month reporting period: [40 CFR 63.1516(b)(1)]

1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(i)]

2) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour. [40 CFR 63.1516(b)(1)(ii)]

3) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter). [40 CFR 63.1516(b)(1)(iv)]

4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1516(b)(1)(vi)]

5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit. [40 CFR 63.1516(b)(1)(vii)]

ii. Each report must include the following certification, as applicable: [40 CFR 63.1516(b)(2)]

1) For each affected source choosing to demonstrate compliance during periods of startup and shutdown in accordance with 40 CFR 63.1513(f)(1): "During each startup and shutdown, no flux and no feed/charge were added to the emission unit, and electricity, propane or natural gas were used as the sole source of heat or the emission unit was not heated." [40 CFR 63.1516(b)(2)(vii)]

iii. The permittee must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested. [40 CFR 63.1516(b)(3)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

1) Within 60 days after the date of completing each performance test (as defined in 40 CFR 63.2) required by 40 CFR 63, Subpart RRR, the permittee must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either 40 CFR 63.1516(b)(3)(i)(A) or (B). [40 CFR 63.1516(b)(3)(i)]

iv. A malfunction report that is required under 40 CFR 63.1516(d) shall be submitted simultaneously with the semiannual excess emissions/summary report required by 40 CFR 63.1516(b). [40 CFR 63.1516(b)(4)]

k. For the purpose of annual certifications of compliance required by 40 CFR Part 70, the permittee must certify continuing compliance based upon, but not limited to, the following conditions: [40 CFR 63.1516(e)]

i. Any period of excess emissions, as defined in 40 CFR 63.1516(b)(1), that occurred during the year were reported as required by 40 CFR 63, Subpart RRR; and [40 CFR 63.1516(e)(1)]

ii. All monitoring, recordkeeping, and reporting requirements were met during the year. [40 CFR 63.1516(e)(2)]

l. If there was a malfunction during the reporting period, the permittee must submit a report that includes the emission unit ID, monitor ID, pollutant or parameter monitored, beginning date and time of the event, end date and time of the event, cause of the deviation or exceedance and corrective action taken for each malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must include a list of the affected source or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions, including, but not limited to, product loss calculations, mass balance calculations, measurements when available, or engineering judgment based on known process parameters. The report must also include a description of actions taken by an permittee during a malfunction of an affected source to minimize emissions in accordance with 40 CFR 63.1506(a)(5). [40 CFR 63.1516(d)]

m. All reports required by 40 CFR 63, Subpart RRR not subject to the requirements in 40 CFR 63.1516(b) must be sent to the Administrator at the appropriate address listed in 40 CFR 63.13. If acceptable to both the Administrator and the permittee of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to 40 CFR 63.1516(b) in paper format. [40 CFR 63.1516(e)]

n. Refer to **SECTION F** for general reporting requirements.

14. Specific Control Equipment Requirements

a. The permittee of an affected source or emission unit using a fabric filter or lime injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR must install, calibrate, maintain, and continuously operate a bag leak detection system as required in 40 CFR 63.1510(f)(1) or a continuous opacity monitoring system as required in 40 CFR 63.1510(f)(2). [40 CFR 63.1510(f)]

i. These requirements apply to the permittee of a new or existing affected source or existing emission unit using a bag leak detection system: [40 CFR 63.1510(f)(1)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

1) The permittee must install and operate a bag leak detection system for each exhaust stack of a fabric filter. [40 CFR 63.1510(f)(1)(i)]
2) Each bag leak detection system must be installed, calibrated, operated, and maintained according to manufacturer's operating instructions. [40 CFR 63.1510(f)(1)(ii)]
3) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less. [40 CFR 63.1510(f)(1)(iii)]
4) The bag leak detection system sensor must provide output of relative or absolute PM loadings. [40 CFR 63.1510(f)(1)(iv)]
5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor. [40 CFR 63.1510(f)(1)(v)]
6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel. [40 CFR 63.1510(f)(1)(vi)]
7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter. [40 CFR 63.1510(f)(1)(vii)]
8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors. [40 CFR 63.1510(f)(1)(viii)]
9) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time. [40 CFR 63.1510(f)(1)(ix)]
10) Following initial adjustment of the system, the permittee must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition. [40 CFR 63.1510(f)(1)(x)]

ii. These requirements apply to the permittee of a new or existing affected source or an existing emission unit using a continuous opacity monitoring system. [40 CFR 63.1510(f)(2)]
1) The permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system to measure and record the opacity of emissions exiting each exhaust stack. [40 CFR 63.1510(f)(2)(i)]
2) Each continuous opacity monitoring system must meet the design and installation requirements of Performance Specification 1 in appendix B to 40 CFR part 60. [40 CFR 63.1510(f)(2)(ii)]

b. These requirements apply to the permittee of a group 1 furnace using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(h)]
i. The permittee must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in subpart A of part 63. [40 CFR 63.1510(h)(1)]

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

ii. The temperature monitoring device must meet each of these performance and equipment specifications: [40 CFR 63.1510(h)(2)]

1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period. [40 CFR 63.1510(h)(2)(i)]

2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n). [40 CFR 63.1510(h)(2)(ii)]

3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator. [40 CFR 63.1510(h)(2)(iii)]

e. These requirements apply to the permittee of an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR. [40 CFR 63.1510(i)]

i. The permittee of a continuous lime injection system must verify that lime is always free-flowing by either: [40 CFR 63.1510(i)(1)]

1) Inspecting each feed hopper or silo at least once each 8-hour period and recording the results of each inspection. If lime is found not to be free-flowing during any of the 8-hour periods, the permittee must increase the frequency of inspections to at least once every 4-hour period for the next 3 days. The permittee may return to inspections at least once every 8 hour period if corrective action results in no further blockages of lime during the 3-day period; or [40 CFR 63.1510(i)(1)(i)]

2) Subject to the approval of the Division, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the permittee must promptly initiate and complete corrective action, or [40 CFR 63.1510(i)(1)(ii)]

3) Subject to the approval of the Division, installing, operating and maintaining a device to monitor the concentration of HCl at the outlet of the fabric filter. If an increase in the concentration of HCl indicates that the lime is not free-flowing, the permittee must promptly initiate and complete corrective action. [40 CFR 63.1510(i)(1)(iii)]

ii. The permittee of a continuous lime injection system must record the lime feeder setting once each day of operation. [40 CFR 63.1510(i)(2)]

iii. A permittee who intermittently adds lime to a lime-injected fabric filter must obtain approval from the Division for a lime addition monitoring procedure. The Division will not approve a monitoring procedure unless data and information are submitted establishing that the procedure is adequate to ensure that relevant emission standards will be met on a continuous basis. [40 CFR 63.1510(i)(3)]

iv. At least once per month, verify that the lime injection rate in pounds per hour (lb/hr) is no less than 90 percent of the lime injection rate used to demonstrate compliance during the most recent performance test. If the monthly check of the lime injection rate is below the 90 percent, the permittee must repair or adjust the lime injection system to restore normal operation within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to demonstrate that the lime injection rate is no less than 90 percent of the lime injection rate used to demonstrate compliance

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

~~during the most recent performance test. In the event that a lime feeder is repaired or replaced, the feeder must be calibrated, and the feed rate must be restored to the lb/hr feed rate operating limit established during the most recent performance test within 45 days. The permittee may request from the Division an extension of up to an additional 45 days to complete the repair or replacement and establishing a new setting. The repair or replacement, and the establishment of the new feeder setting(s) must be documented in accordance with the recordkeeping requirements of 40 CFR 63.1517. [40 CFR 63.1510(i)(4)]~~

~~d. The control devices associated with EU04 shall be properly maintained, used in conjunction with operation of the associated emission unit, and operated consistent with the manufacturer's specifications. [401 KAR 52:020, Section 10]~~

~~e. Refer to **SECTION E**.~~

SECTION I – COMPLIANCE SCHEDULE

N/A

APPENDIX A

CAM PLAN for EU06

APPENDIX A

CAM Plan – Salt Cake Processing Facility

I. CAM BACKGROUND

EMISSION UNIT

Description: Salt Cake Processing Facility

Identification: Emission Unit 06 (EU06)

Facility: Real Alloy Recycling, LLC - Morgantown, Kentucky

APPLICABLE REGULATIONS, EMISSION LIMITATIONS, AND MONITORING REQUIREMENTS

Regulation/ Emission Limit: *401 KAR 59:010 (New Process Operations)*; PM emissions less than $3.59 \times P^{0.62}$ lb/hr where P is tons of material processed per hour and visible emissions less than 20% opacity

Current Monitoring Requirements: Daily baghouse differential pressure drop for each of three baghouses: Baghouse #3, Baghouse #4, Baghouse #14A

Weekly visible emissions observations (EPA Reference Method 9 when visible emissions are detected and/or corrective actions taken)

Commented [EM42]: See comment below. Please update language to correspond to the Section B requirement.

CONTROL TECHNOLOGY

Pulse air baghouse with a maximum design flow capacities of 35,000 acfm (Baghouse #3), 50,000 acfm (Baghouse #4), and 110,000 acfm (Baghouse #14A).

II. MONITORING APPROACH

The key elements of the monitoring approach, including the indicators to be monitored, indicator ranges, and performance criteria are summarized in ~~the~~ Table A-1.

APPENDIX A

TABLE A-1. SALT CAKE PROCESSING FACILITY MONITORING APPROACH SUMMARY

Indicator	
Parameter	Pressure Drop
Measurement Approach	Pressure drop across the baghouse is measured continuously using a magnehelic differential pressure gauge and is observed by an operator daily. Weekly visual inspection of collection and control devices ~~as well as weekly Method 9~~ and routine baghouse equipment maintenance will also be conducted.
Indicator Range	
	The indicator range is a pressure drop reading between 1.5 and 12~~9~~.0 in. H_2O. Excursions trigger an inspection and potentially corrective action and reporting.
Performance Criteria	
Data Representativeness	Pressure drop across the baghouse is measured at the inlet and outlet of the baghouse and is an indicator of baghouse performance and thus can be used to ensure compliance with applicable emission limitations. A reading is taken daily such that 24-hours do not pass between readings.
QA/QC Practices and Criteria	Pressure gauge is calibrated semiannually. Zero check and pressure lead checks performed monthly.
Monitoring Frequency and Data Collection Procedures	Pressure drop is measured continuously and an operator observes the pressure drop daily.
Corrective Action	When an out of range pressure drop reading occurs, operators will check the pressure gauge and baghouse equipment to ensure proper operation. If any of these checks indicate abnormal baghouse operation, the permittee will inspect all potentially malfunctioning components of the offending system. Once the source of the malfunction is determined, the problem will be remedied as soon as is practicable after the malfunction is recognized by repairing or replacing the malfunctioning component of the system.

Commented [EM43]: Please update to correspond to what Section B requires. The Requirements section on the preceding page explains this - weekly visible emissions evaluations are conducted and if there's visible emissions, a Method 9 is conducted and/or corrective action is taken.

Commented [EM44]: Based on a review of operational data, this indicator range has been too restrictive relative to indications of a baghouse operational issue. Real Alloy is expanding the range to be more representative of normal operation.

III. MONITORING APPROACH JUSTIFICATION

The Salt Cake Processing Facility Baghouses control emissions routed from four different areas of the plant: the receiving building, primary processing, secondary processing and the reject building.

RATIONALE FOR SELECTING PERFORMANCE INDICATORS

The pressure drop across the baghouse is monitored continuously and observed daily. A measured differential pressure drop across the baghouse above the maximum end of the indicator range may suggest the cleaning cycle for the baghouse is not frequent enough, the pulse air cleaning system is damaged, or the bags are becoming plugged. A measured pressure drop below the minimum end of the indicator range may suggest that loose or broken bags are present within the system.

RATIONALE FOR SELECTING INDICATOR RANGE

The indicator range for baghouse differential pressure drop is between 1.5 and 12~~9~~.0 in. H_2O. This indicator range was chosen based on operational experience and manufacturer's specifications.